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ARTICULOS SUMMARISATE
IN INTERLINGUA

journal of dental medicine

OBJECTIVES OF THE AMERICAN ACADEMY OF DENTAL MEDICINE

(*Quoted from the Constitution*)

"To promote the study and dissemination of knowledge of the cause, prevention and control of diseases of the teeth, their supporting structures and adnexa and related subjects; and to foster and promote a better scientific understanding between the fields of dentistry and medicine."

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JOURNAL OF DENTAL MEDICINE

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ORAL MANIFESTATIONS OF HEMATOLOGICAL DISORDERS*

Raymond W. Monto, M.D.†

Diseases of the hematopoietic system are frequently exhibited in the oral cavity. Since the dentist is often the first to encounter disturbances in this area, it is essential that he be aware of the systemic importance of intra-oral lesions. The understanding of the clinical findings and blood abnormalities is essential in the proper management of the patient. In the past ten years the writer has been privileged to work in close association with a large group of dentists and thus has acquired a practical knowledge of interrelated problems.

The mucous membranes of the mouth manifest the early lesions and symptoms of primary hematologic disorders for various reasons. The vascularity of the mouth with the thin barrier of mucous membrane is easily broken by the continuous intra-oral trauma to produce bleeding phenomena in abnormal states. Many blood disturbances result in lowering of the number of leukocytes and inhibition of their normal function. This phenomenon together with the ever present bacterial flora of the oral cavity predisposes to infections and ulcerations. Certain function. This phenomena together with the related with glossitis and atrophy of the oral mucous membranes.

Pallor is the most evident sign of anemia and weakness with dyspnea on exertion the most common symptom. Iron deficiency anemia and pernicious anemia are characteristically associated with hypersensitivity of the tongue which may be the first symptom of the disease and in pernicious anemia is noted to occur before the development of significant anemia.

Iron deficiency anemia may result from inadequate intake of meat products or abnormal blood loss most commonly associated with females of the menstrual age group. An infrequent cause for iron deficiency anemia is the failure of the gastrointestinal tract to absorb proper amounts of iron. This deficiency state results not only in anemia and associated symptoms, but also atrophy of the mucous membranes of the esophagus which produces dysphagia. In severe anemia the finger and toe nails may crack, peel, and become concave. Satisfactory treatment of this type of anemia is accomplished by the oral administration of ferrous salts. (Fig. 1)

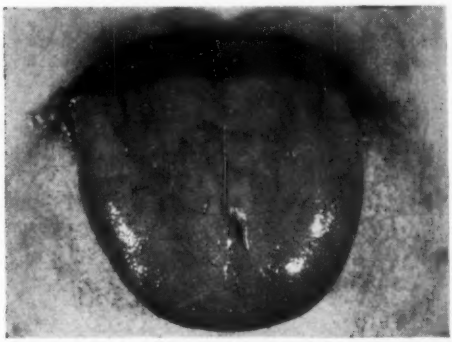

Fig. 1. The painful and atrophic tongue of a patient with severe iron deficiency anemia. Note the associated cheilitis. These changes are quickly corrected by the oral administration of iron salts.

Pernicious anemia results from the failure of the gastrointestnal tract to absorb 1/1,000,000 of a gram of vitamin B_{12} each day. Such a metabolic disturbance is produced by the lack of a specific muco-protein (intrinsic factor) secreted by the stomach. This substance binds or complexes with vitamin B_{12} (extrinsic factor) permitting absorption of the essential vitamin. To overcome this lack of intestinal absorption, patients with pernicious anemia are best treated with intramuscular injections of vitamin B_{12}. Mild cases of the disease can be managed satisfactorily by the newer oral intrinsic factor—B_{12} complexes.

* Presented before the Tenth Annual Meeting of the American Academy of Dental Medicine, June 21-24, 1956, Detroit, Mich.

† Physician-in-Chief, Division of Hematology, Henry Ford Hospital, Detroit, Mich.

Leukemia is a neoplastic myeloproliferative disease which at present is incurable. Spontaneous bleeding from the mucous membranes of the mouth is one of the earliest signs of acute leukemia. Indeed, many of these patients are seen initially by their dentists. The systemic nature of the illness is often recognized by the acute symptoms and signs such as fever, toxicity, and pallor. Further vigorous instrumentation (dental extractions and prophylaxis) in leukemia may result in uncontrollable hemorrhage.

Ulcerations of the mouth and adjacent structures are another common type of lesion seen in leukemia. These are often misinterpreted as aphthous ulcers or necrotizing gingivitis. The chronicity of the lesion and systemic manifestations again indicate the seriousness of the local findings. Hemorrhagic and ulcerative lesions of the oral cavity which do not respond quickly to local therapy indicate the need for careful study of the peripheral blood and bone marrow. (Figs. 2, 3 and 4.)

Fig. 2. Marked hypertrophy of the gingiva caused by infection and hemorrhage in a young girl with acute granulocytic leukemia.

Treatment of leukemia is paliative, but significantly prolongs life and allows the patient to avoid needless suffering. Life expectancy in acute leukemia averages one year, while patients suffering the chronic forms may enjoy relatively good health for four to eight years. Treatment consists largely of the use of blood transfusions, x-ray irradiation, cortisone, adrenocorticotrophin, and the antimitotic agents: folic acid antagonists, purine antagonists, nitrogen mustard, myleran, and radioactive isotopes.

Many patients relate lymph node enlargement in the neck to their dental problems; hence, they consult their dentists at onset. Lymphadenopathy of the anterior cervical chain which persists for more than three weeks must always be considered as malignant in origin until proven otherwise. Palpable posterior cervical lymph glands in children are very common and associated with recurrent nasopharyngeal infections. Primary involvement of the alveolar ridge in lymphoma is uncommon but does occur. On occasion serial biopsies must be made to establish the true nature of the disease. (Figs. 5 and 6.)

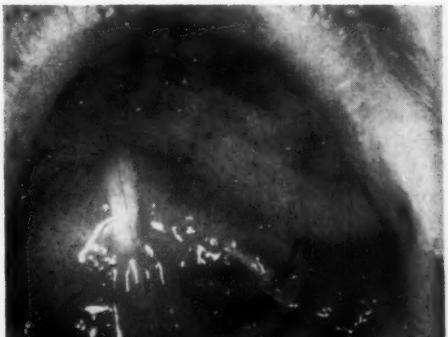

Fig. 3. Ulceration of the soft palate with petchiae in a patient with chronic lymphocytic leukemia. Therapy consisted of cortisone, oral antibotics, and saline mouth washes.

The most common problem in dentistry relating to hematology is the patient who claims to be a "bleeder"; hence, this subject will be discussed in some detail. In our experience 8 of 10

Fig. 4. Superficial ulceration of the tip of the tongue and mucous membranes of the lower lip in a patient suffering from agranulocytosis, cause undetermined.

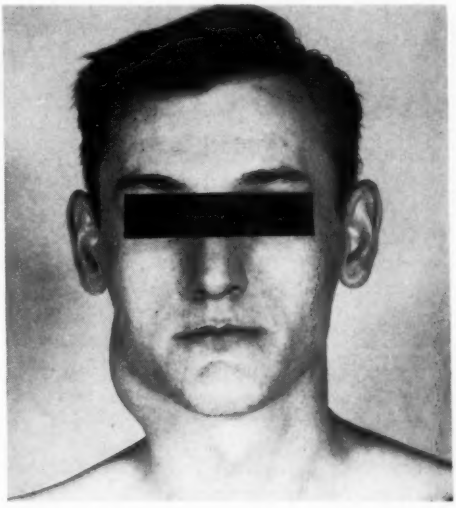

Fig. 5. Painless swelling of the anterior cervical lymph glands in a young man. The patient initially sought help from his dentist believing the lesion to be of dental origin. Biopsy proved the enlargement to be caused by Hodgkin's disease.

patients who feel that they have abnormal bleeding do not. On the other hand, the occasional real bleeder is encountered frequently enough to warrant consideration.

Blood loss is a frightening experience, and patients in general unconsciously exaggerate their symptoms and signs. Delayed bleeding of several hours is seldom related to systemic causes (hemophiliacs excepted) and usually results from premature separation of clot or slipping of a ligature from a blood vessel. Abnormal bleeding usually is slow but continuous, lasting many hours or days. Bleeding less than a half hour in small quantities is seldom associated with hemorrhagic disease.

The amount of blood loss can be estimated by need and extent of local care—or need of blood transfusions. Significant blood loss is associated with repeated visits to the dentist or physician for removal of old clots, packing, or suturing of gingival margins. Serious bleeding most always results in hospitalization of the patient.

The patient must be questioned as to tolerance to lacerations, previous surgical procedures, and need of special measures at the time to prevent abnormal bleeding. A careful history taking, in many instances, can exclude the possibilities of a hemorrhagic disorder.

Hemorrhagic diseases may be classified into three major catagories: platelet defects, vascular weakness, and disturbances in coagulation (protein abnormalities). Many patients suffer from mild hemorrhagic disorders which manifest only on trauma or surgery. Since the most common surgical procedure is intra-oral, most of these situations are first encountered by a member of the dental profession. Indeed, in hematologic practice, one of every five patients with bleeding disorders are referred by dentists. Careful questioning as to bleeding from other sites than the oral cavity is indicated. Most patients with bleeding tendencies will describe nasal, rectal, urinary, or cutaneous manifestations. In females prolonged and profuse menses may indicate the disorder. With the frequent use of anticoagulants in the management of thromboembolic disease, the bleeding patient must be interrogated as to the use of these drugs. Severe systemic disease, i.e. nephritis, diabetes, and cirrhosis of the liver may produce abnormal bleeding. (Figs. 7, 8 and 9.)

In recent years there has been extensive expansion of the chemical industries. Possible exposure to myelotoxic agents particularly solvents and heavy metals must be noted. These substances in susceptible individuals are capable

Fig. 6. Tumor of the alveolar ridge of the mandible. Biopsy proved the lesion to be lymphosarcoma. This lesion was treated with irradiation by X-ray.

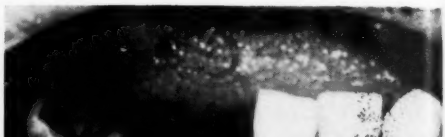

Fig. 8. Dental extractions performed in an adult with chronic granulocytic leukemia. Extractions may be advised early in the course of the disease when the hemostatic properties of the blood have not been altered.

of producing hypoplastic and aplastic changes within the blood forming system. Bleeding and ulceration of the mouth results from the associated thrombocytopenia and leukopenia.

Plethora and cyanosis of the mucous membranes may indicate the presence of polycythemia vera, an abnormality of overproduction of all the blood elements. Marked increase in blood volume occurs with distention of the entire vascular system. This disturbance results in a moderate bleeding phenomena and unrecognized is known to cause recurrent oral bleeding.

Many individuals interpret a tendency to bruise easily as an indication of a bleeding disorder. An occasional ecchymotic area on the extremities does not indicate a hemorrhagic tendency. Such lesions are frequently encountered in obese middle-aged females and indicate only a minor degree of capillary fragility. In the aged, there is usually thinning of the skin with loss of subcutaneous fat and connective tissue. This lack of support to blood vessels increases their fragility and resultant ecchymoses occur with but minor trauma. Contrarily, spontaneous ecchymoses or petechiae of ths mucous membranes in almost all instances connotes a more serious bleeding disorder. These findings

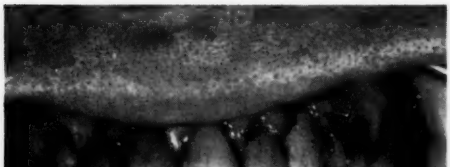

Fig. 7. Severe thrombocytopenia resulted in almost continuous oral bleeding from the gingival margins in this patient. Careful dental prophylaxis with advice as to the use of a very soft toothbrush, light digital massage, and facial tissue resulted in satisfactory control of the bleeding.

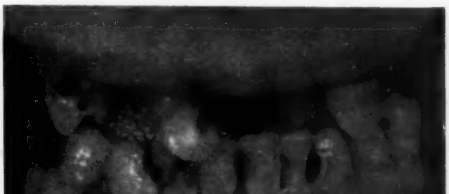

Fig. 9. Severe dental caries with oral sepsis in a patient with hemophilia. This mouth lesion is characteristic of the disease and results from neglect by the patient, physician, and dentist. We request our hemophiliac patients to be seen every three months by their dentist for preventive dental care.

must be investigated by appropriate laboratory studies.

The basic principles for the arrest of bleeding remain very simple: 1. Rest 2. Pressure 3. Cold. These measures constitute over 90% of effective therapy. Rest includes assurance and sedation to ally anxiety as well as physical immobilization whenever possible. Pressure when applied must be for periods of 20 to 30 minutes and best performed digitally. Cold produces effective vasoconstriction and far exceeds in usefulness the transient effects of epinephrine and similar acting agents. These measures are most successful when used in conjunction with local application of gelfoam impregnated with topical thrombin solutions. Since infection predisposes to delayed bleeding, the administration of antibiotics to the bleeding patient is recommended.

In severe hemorrhage no therapy exceeds the benefits derived from the administration of whole *fresh* blood. Cortisone increases capillary resistance and is useful in the management of the thrombocytopenic and patients suffering from the vascular hemorrhagic diseases.

It should not be inferred that all bleeding from the gingiva is of systemic origin. Gingivitis caused by local disturbances such as calculus, malocclusion, ill-fitting prostheses, poor oral hygiene, and rough fillings may cause minor oozing of blood. Unfortunately many dentists "treat" oral bleeding for months with ineffective vitamins, calcium salts, epinephrine-like drugs, flavanoids, and/or vitamin K, hence, delaying definitive diagnosis and treatment. The misinterpreted effectiveness of these substances results from previous "experience" in the hands of some dentists and physicians on alleged bleeders.

SUMMARY

The dentist must maintain a sense of awareness as to the possible significance of an intraoral lesion in relation to the hematopoietic system. It is the unique anatomical and physiological character of the oral structures which predispose to manifestations of systemic disturbances of the blood. The true nature of a mouth lesion is often evident after evaluation of the patient as a whole.

Henry Ford Hospital,
Detroit, Mich.

MANIFESTATIONES ORAL DE MALADIAS HEMATOLOGIC

Dr. med. Raymond W. Monto

SUMMARIO IN INTERLINGUA

Le maladias del systema hematopoietic se manifesta frequentemente in le cavitate oral. Viste que le dentista es frequentemente le primo qui incontra perturbationes de iste zona, ille debe absolutemente haber conscientia del signification systemic del lesiones intraoral. Le comprehension del trovatos clinic e del anormalitates sanguinee es essential al bon maneamento del patiente.

Le mucosas oral monstra le lesiones e symptomas precoce del maladias hematologic primari per varie rationes. Le vascularitate del bucca con su delicate pariete mucosal se rumpe facilemente per le continue trauma intraoral pro determinar phenomenos hemorrhagic in statos anormal. Multe perturbationes del sanguine resulta in diminuer le numero del leucocytos e inhibir su function normal. Iste phenomeno juncte al flora bacterial persistente del cavitate oral predispone a infectiones e ulcerationes. Alicun statos de deficientia provoca anemias correlationate con glossitis e atrophia del mucosas oral.

Ulcerationes del bucca e structuras adjacente constitue un altere typo currente de lesiones viste in leucemia. Istos con frequentia se confunde con ulcers aphthose o gingivitis necrotisante. Le chronicitate del lesion e manifestationes systemic indica de novo le gravitate del trovatos local. Lesiones hemorrhagic e ulcerose del cavitate oral que non reage celeremente al therapia local indica le necessitate de un studio accurate del sanguine peripheric e del medulla ossee. (Figs. 2, 3 e 4.)

Le dentista debe tener presente le significatios eventual de un lesion intraoral in relation al systema hematopoietic. Es le singular character anatomic e physiologic del structuras oral que destina los a manifestar perturbationes systemic del sanguine. Le ver natura de un lesion del bucca pote poner se in evidentia post evalutation del patiente in toto.

DENTISTRY IN BURMA

DR. WU MOON-AUNG, L.D.S., D.D.S., D.M.D., F.I.C.D.*

Editor's note: Our foreign correspondent in Rangoon, Burma, Dr. Wu Moon-Aung has submitted this short report on "Dentistry in Burma" for our readers. This extremely interesting article appears unedited and in Doctor Moon-Aung's inimitable style.

Dentistry in Burma is in a bad state of affairs. There is no Dental Act and therefore there is no registration of Dentists—anyone can practice Dentistry. This state of affairs cannot be rectified unless our Government takes steps to open a Dental College and I am happy to say that our Government, of late has come to a decision to start a Dental College in the near future. It is better late than never although we are already over 100 years behind time as you all are aware the 1st College was opened in Baltimore in 1840. We have no dental law to restrict the practice to only those who are qualified. The untrained dentists must run into several thousands although there is no exact figure. I must admit some of them are doing quite good work. There are not more than 40 qualified Dentists in the whole country and almost all of them are in Rangoon.

Organized dentistry was unknown and there was no Dental Association. In 1953, the Burma Dental Association was formed with myself as the Founder-President to promote Dentistry in Burma and to maintain good fellowship in the profession. Since then our Association has made rapid progress and has got the recognition of both the Government and the public. The Minister of Health has become our permanent Patron. We have a special Committee, and with the help of the Burma Medical Council, drafted a Dental bill which is now before Parliament. I hope before long we shall have a Dental Law in Burma.

Our Association is in its third year of existence with an active yearly program. All office-bearers are elected once a year. Our membership has reached over 100. Meetings are frequently held. Film-shows about the latest dental procedures or some phase of Dentistry are held periodically.Lectures by members and Visiting Dental Authorities are also arranged.

We founder-members felt a sense of satisfaction for having laid the foundation of organized Dentistry in our Country and we can now look into the future with confidence.

* Honorary Dental Surgeon to H.E. the President of the Union of Burma; Lecturer in Dental Surgery, Medical College (University of Rangoon); Regent for Burma, Thailand and Indo-China, International College of Dentists, U.S.A.

THE SCOPE OF DENTAL MEDICINE*

Louis J. Baume, D.M.D., M.S.†

Modern dentistry reflects upon the care of the oro-dental organs by a well coordinated practice of mechanical procedures and biological principles. Oral or dental medicine may be defined as the non-mechanical phase that brings the application of basic principles of human biology and the fundamentals of general medicine to the practice of dentistry. It is within the scope of Dental Medicine to control the relationship between dental restorations and the underlying living tissues and to safeguard oral and systemic health from insults to the oral cavity. Dental Medicine, therefore, stands for the medical attitude towards daily dental practice rather than for a specialized regimen visualized by the stomatologists of the latin countries.

Medicine signifies the art and science of healing. It comprises diagnosis, treatment or prevention of pathologic processes, while pathology itself is concerned only with the cause and mechanism of diseases. Medicine cares for the patient who is the living carrier of a disease. It follows that his ill condition cannot be understood only in accordance with the principles of physics and biochemistry. It also involves a human being with body and soul of his own constitution as formed by heredity and environment, and with his personal responsibility toward life and society. Knowledge of natural science has to be paired with ethical qualities to perform the art of healing and fulfill the requirements of adequate health service. Dental Medicine teaches that this medical attitude must permeate every step in the management of the dental patient, offering each patient the type of attention and comfort which the present state of scientific knowledge leads him to expect and to which he is entitled.

In the evolution of medical practice, so ably depicted by Gies, amelioration of dental diseases required complicated mechanical procedures which physicians were not inclined to develop and apply. This inattention occasioned gradual evolution by craftsmen of interest and proficiency in the alleviation of dental disabilities. A prolonged era of improving craftmanship and a growing acceptability of a reparative and restorative dental service prepared the way for the achievements that signalized, more than a hundred years ago in the United States, the emergence of Dentistry as a profession. Early in the last century, as a phase in the evolution of professional consciousness, dentists realized that dental service should be based upon the science underlying medical practice. Their endeavors materialized in 1840, when the first dental school, the Baltimore College of Dental Surgery, began its pioneering work. During the next ten decades, dentistry developed quickly and actively in the United States into a separately organized division of health service, thus ensuring the progress, independence and esteem the dental profession actually enjoys in the American countries. European dentistry, traditionally more dependent on "school medicine," failed to obtain this emancipation, except in the Scandinavian countries.

NEW DENTAL EDUCATIONAL CENTERS

Concerted attempts of the young dental profession, steadily growing by the establishment of new educational centers all over the civilized world, resulted in a continuous improvement of tools and techniques for the restoration and prosthesis of dental defects. This mechanical approach to the problem inflicted on dentistry about the beginning of the 20th century, instigated two tendencies in the dental profession. One notes that educational and commercial considerations furthered a partition of the pro-

* Presented before the 4th Annual Meeting of the F.D.I., Zurich, Switzerland, 1956.

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fession through specialization. This process converting general dentistry into exclusive practices of exodontia, prosthodontia, operative dentistry, orthodontia, periodontia, pedodontia, endodontia or radiodontia, certainly brought about the danger of steadily limiting the scope of the dental practitioner without advantage to professional standards or benefit to the dental patient.

Physicians as well as dentists, in growing numbers, realized that the progressively better recognized correlations between oral and systemic conditions and disorders required a more intimate medico-dental education and affiliation to dominate and reunite specialized dentistry. The need for a better coordination of technical procedures and basic medical sciences in dentistry was specially sensed in the field of periodontia. This led in Europe to the foundation of the A.R.P.A.* by R. Jaccard, in 1932. In the United States, in 1925, the first Department of Periodontia was formed by McCall, Miller and Sorrin, (now the Department of Periodontia and Oral Medicine); and in 1934, the College of Dentistry of the University of California, under G. Millberry and H. Becks, guided this drive to the establishment of a Division of Dental Medicine. This new movement was soon recognized by the American dental profession at large, as evidenced by an ever increasing integration of biological disciplines (oral pathology, oral medicine, oral surgery, nutrition) into the dental curriculum and biological research into postgraduate and graduate education.

STRESS CONCEPT

This evolution of the dental profession may find its analogy in the history of modern biology itself. Anatomists first divided the body entity into different organs by definition. Physiologists and pathologists subsequently believed in an autonomous function of these particular organs as expressed in Virchow's "cellular pathology" (1843). Since the beginning of the 20th century, biologic science, in a rapid succession of new discoveries, revealed the existence of multifarious systems of correlations such as the induction phenomenon in embryology, nervous, hormonal, serologic, enzymatic and even psychosomatic regulations in the physiologic process of life. The "stress concept" elaborated by Selye, can be regarded as one precipitation of the newly acquired knowledge regarding the stereotypical body responses to a variety of either topical or systemic non-specific irritants called stressors. The fundamental reaction pattern to a topical stressor is "inflammation" while a systemic stressor elicits the "general adaptation syndrome" which is a triphasic nonspecific adaptive reaction composed of (1) the alarm reaction, (2) the stage of resistance, (3) the stage of exhaustion. Pasteur's most fruitful conception of the "specificity of reaction to one stimulus," thus has found its valuable counterpart in the emphasis of the "terrain" at the site of the body's own auto-pharmacologic efforts to combat the stress factor in health and disease. Dental Medicine has a particular interest in the important actions of stress and of the adaptive hormones upon the processes of normal healing, and inflammatory diathesis of the gingiva in parodontopathies and oral manifestations of adaptive cutaneous diseases (lupus erythematosus, etc).

The single elements can be analysed by physical and chemical methods. Their synthesis into a coordinated organization is inaccessible to such mechanical means. This has aptly been expressed by Claude Bernard in his statement "L'élément ultime est physique, l'arrangement est vital." (The last element is physical, but their arrangement is vital). And what is vital? In contrast to the newly acquired possession of an almost universal mastery over elementary power in the nuclear physics, human ratio and spirit remain bare of the slightest comprehension of the essence of life or vitality. Its processes in time and space indeed are known as morphogenesis or growth and development, as well as metabolism and reproduction. They are essential expressions of the indivisible living individual. Another vital property is the reactiveness or response to stimuli. Every indi-

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vidual is the product of the inherited anlage or genotype, and the result of external peristatic influences of the environment which together manifest the phenotype. Realization of these two ultimate formative factors will be of great importance for every preventive measure. Environmental factors can be regulated, whereas hereditary factors themselves are almost entirely beyond control, although the application of nuclear forces in radiobiology has opened new avenues towards a better understanding of the genetical mechanism.

PSYCHOSOMATIC RELATIONS

At present, there is a great tendency to explore those less tangible phases of an individual life known as "emotion" or "personality." Contemporary medicine calls them psychosomatic relations, and already has worked out in considerable details the role of these factors in well-being and causation of diseases. "Psychosomatic" is a new term designed to imply the essential of "mental" and "physical" processes in the human organization and to designate the integration of psychiatric methods of investigation with those of the other medical sciences. Dental Medicine is implicated in many problems with psychosomatic principles such as the experience of pain and the phenomenon of fear, that of clenching, or the experience of losing teeth, and the adaptation to prosthetic appliances. Psychosomatic mechanisms have been suggested to constitute etiological factors of dental diseases (caries, periodontal disease), although little has been adequately done so far.

Health or disease of the body depends on the harmonious or disturbed functioning of these regulations. The ideal concept of health requires, in addition, that all body parts are well formed, including a good functioning dentition. If dysfunction involves development, the results are dysontogenetic malformations of varying extend from monsters unfit for life, to clefts troublesome in life. The recent elucidation of their etiologic background marks another progress of modern medicine as radiation, certain viral and toxic insults, nutritional deficiencies (hypovitaminosis of the B-complex) have been shown to produce "embryopathies."

Differentiation between normal variation and pathologic formation often depends merely on the yardstick with which to measure the normal. Statistical biometry has been accepted in the field of anthropology and orthodontia to determine proper and abnormal range of dimensional formations.

SYSTEMIC ENTITY

"For the body is one, and hath many members and all members of that one body being many, are one body. . . ." (St. Paul). It can be stated that no organ can be considered any longer as an autonomous physiological entity, but only as a part of a well correlated organism. This holds true for every organ of the oral cavity as are the teeth, the gingivae, the alveolar bone, etc. Recent research work conducted with the help of tracer isotopes and the electron microscope suggests an intimate functional and even developmental relationship between enamel and salivary elements during the process of a posteruptive enamel maturation. And there is histological evidence of a distinct developmental, as well as functional relationship between the tooth and its supporting alveolar bone (Baume). According to Häupl's concept of "functional jaw orthopedics" the stimulation derived from muscular activity controls a physiological rebuilding of the periodontal structures concomitant with orthodontic tooth movement.

The "oral cavity" is a verbal fiction as a momentary consideration will clearly demonstrate. The region thus labeled is not only highly integrated with other systems of the body, but is the portal of nutrition, the organ of preparatory digestion, and a principal instrument of expression in social relationship. Not only should the interrelation of teeth, saliva and periodontal structures with the total body be considered, but the integration of the individual with other persons in the competitive struggle for existence with its love and hates, sympathies and antipathies, success and failures, should also be evaluated within the scope of Dental Medicine.

It has been stated that the teeth and the oral tissues are sensitive indicators, or a "mirror" of

the general health of the individual. This concept indeed is deeply rooted in the primitive human history. Prehistoric relics, as well as the amulets of contemporary aboriginals show that a symbolic value of vital force and personal adornment is put into the teeth. This is already expressed in the oldest legal maxims of humanity, in the books of Moses, which quote equally: "an eye for an eye, a tooth for a tooth and a hand for a hand," and prescribes: "He who takes a tooth from his slave, shall release the slave." It really cannot be said of the modern man that he is still so vitally conscious of the value of his natural teeth! Many "tooth dreams," however, have been interpreted as an expression of unconscious worry about the loss of personal value.

The deeper insight in that miraculous precision work of natural correlation also may render the modern dentist somewhat more concerned about a possible further conservation of each natural tooth, or its vital pulp, than he is often inclined to do in his present strong belief in technical reconstruction and its requirements. Dental Medicine insists that the understanding of these intimate correlations between oral structures and somatic entity must become the basic prerequisite under which treating, healing, or preventing of pathologic processes in the oral cavity can successfully be achieved.

TISSUE REACTIONS

Every restoration placed by a dentist comes into contact with living tissue acting as a foreign body or exerting an influence on it. Hence, the laws which control the vital processes in those tissues have to be considered. Not only must we understand the possible reactions of the pulp to drilling and filling, but also the allergic changes that may result from contact with dental materials. Any substance used in dentistry can act as a antigen provided that it is activated by albumin. Local irritation of the gingiva and also systemic manifestations like eczemas or even malignant tissue changes may be the result. Dental Medicine must safeguard the patient's health from such insults caused by dental materials.

In the practice of such endeavours, the dentist occupies a strategic position due to the regular and periodic visits of his patient. With training in dental medicine, he may be able to detect early symptoms and incipient threats to well-being. The recognition of bone dystrophies and arthropathies due to nutritional deficiencies, endocrine or functional unbalances will not only contribute to a better lasting management of orthodontic, prosthetic or periodontal problems, but also induces a possible restoration of general health. Oral manifestations of infectious and allergic conditions, of blood dyscrasias, neoplastic processes, degenerative diseases or even poisoning, may also be first recognized by the alert dentist, who thus will better serve his patient and more constructively cooperate with his contemporaries in the many fields of health services.

AIM OF DENTAL MEDICINE

Dental Medicine is concerned with local diseases of the oral structures as well as the pathologic manifestations of general or systemic diseases within these organs. Unfortunately this clearcut distinction according to our present etiological knowledge and differential diagnosis status is established only for a small group of oral lesions. In the last decades, a tremendous amount of clinical and laboratory research work has been done in order to trace the pathways of pathologic reactions in the body system to the oral tissues. In the light of these tests, caries as well as parodontopathies are recognized as being initiated by external causes, but conditioned by internal constitutional factors. By putting due emphasis upon the systemic aspects, Dental Medicine has contributed much to better management of those common dental diseases, in contrast to a mere temporary suppression of their symptoms by the local approach.

In the highest professional mission, the aim of dental medicine is the prevention of disorders of oral structures or the early treatment of incipient threats to their proper development and health. A reliable basis from which to advance and practice those methods can only be acquired by a thorough understanding of the physiologic

body development and metabolism as well as with an adequate knowledge of possible causes of pathologic changes. The task thus is twofold. On one side, it consists of the control of possible environmental interferences of endogenous origin such as nutritional, metabolic, or endocrine disturbances or of exogenous nature such as functional, bacterio-chemical and other injuries, with the unfolding or maintaining of a normal genetic pattern. As viral and enzymatic insults may already act upon the developing organism to produce embryopathies such as clefts or hypoplasias, preventive measures must be installed at a very early time. On the other hand, if that pattern, due to an inherited inferiority, tends to develop into malformation, early treatment has to forestall an irreversible pathologic formation.

Both prophylactic measures imply an intimate human urge which though not likely to be ever accomplished, continuously fosters and spurs our endeavours for advantageous betterments and assurance of improvements as expressed in the instinctive fact finding search. Dental research, ennobled by its altruistic devotion to serve the prospective welfare of the people, spearheads this drive of the etiologic investigation. All the many useful current procedures and devices to prevent the consequences of dental diseases, whether viewed from the standpoint of arrest or correction, restoration or even replacement, have resulted from research. Integration of every phase of this search and research with the concept of Dental Medicine in its broad biologic approach is hoped to advance greatly the difficult, irksome and therefore delayed progress in the elimination of dental diseases, so that at last there may dawn the day when the ultimate goal of an integral prevention is attained.

SUMMARY

Modern dentistry, as a general or specialized practice, involves both technical and biological phases. Dental or oral medicine is concerned with the non-mechanical biologic aspects, to instill the fundamentals of medicine and the principles of prevention in the care of dental patients.

The teaching and the practice of dental medicine which is now universally recognized as of equal importance with the artisan phase of dentistry, therefore will provide the dental profession with the necessary background to assure its respected and independent position in the domain of the healing art.

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BIBLIOGRAPHY

Baume, L. J., Dental Medicine., O. Surg., O. Med. & O. Path. 4:251, 1951.
Baume, L. J., The Evolution of Dentistry and Its Relationship with Medicine in the United States, the Scandinavian Countries and Switzerland. SSO-Bulletin, 34: June, 1956.
Becks, H., University of California, Dental Medicine, Am. J. Orth. & O. Surg., 31:381, 1945.
Becks, H., Second Dental Medicine Seminar, Am. J. Orth. & O. Surg., 32:433, 1946.
Becks, H., Fourth Dental Medicine Seminar, O. Surg., O. Med. & O. Path., 1:151, 1948.
Becks, H., Seminar for the Study and Practice of Dental Medicine, O. Surg., O. Med., O. Path., 3:289, 1950.
Burket, L., Oral Medicine. 2nd ed., J. B. Lippincott Co., Philadelphia, 1946.
Gies, W. J., Research as an Important Factor in Dental Progress, Proc. Dental Centenary Celebration, Baltimore, 1940.
Jaccard, R., L'orientation des idees odontologiques et la paradentose., Semaine Dent., 1935.
Miller, S. C., Oral Diagnosis and Treatment, McGraw-Hill (Blakiston Division) New York, ed. 3, 1957.
Muhler, J. C., Hine, M. K., & Day, H. G. Preventive Dentistry, The C. V. Mosby Co., St. Louis, 1954.
Robinson, H. B. G., Advances in Dental Science., J.A.D.A., 40:647, 1950.
Stones, H. H., Oral and Dental Diseases. 2nd ed., C. V. Mosby Co., St. Louis, 1951.
Thoma, K., Oral Pathology. 3rd ed., C. V. Mosby Co., St. Louis, 1950.
Thoma, K., The History of Oral Surgery, O. Surg., O. Med., O. Path.; 10:1, 1957.

LE SPHERA DEL MEDICINA DENTAL

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SUMMARIO IN INTERLINGUA

Le dentisteria moderne reflecte super le cura del organos orodental per un practica ben coordinate de procedimentos mechanic e principios biologic. Le medicina oral o dental pote definir se como le phase non mechanic, contribuente al practica dental le application de principios basic de biologia human e del fundamentos de medicina general. Es del scopo del Medicina Dental controlar le relation inter le restaurationes dental e le vivente texitos subjacente e salveguardar le sanitate oral e systemic contra insultos al cavitate oral. Le Medicina Dental representa igitur le attitude medic verso le practica dental quotidian, plus rosto que un regime specialisate como conceptionate per le stomatologistas del paises latin.

Concertate effortios del juvene facultate dental, constantemente crescente per le fundation de nove centros academic in tote le mundo civilisate, ha apportate un continue melioration de instrumentos e de technicas pro restaurar e prosthetisar defectos dental. Iste attacco mechanic al problema, visitate supra le dentisteria circa le comenciamento del seculo XX, ha promovite duo tendentias in le profession dental. De un latere, considerationes de ordine academic e commercial fomentava partition del profession per specialisation. Tal processo, que converteva le dentisteria general in le practicas exclusive de exodontia, prosthodontia, dentisteria operative, orthodontia, periodontia, pedodontia, endodontia e radiodontia, certo ha conducite al periculo de progressive restringimento del sphera del practicante dental, sin beneficio al nivello professional ni al patiente dental.

Existe actualmente un grande tendentia pro etiam explorar ille phases minus tangibile del vita individual que se cognosce como "emotion" o "personalitate". Le medicina contemporanee parla de relationes psychosomatic, e ha jam elaborate in alicun detalio le rolo de tal factores in le benesser e in le etiologia de maladias. "Psychomatic" es un nove termino volente exprimer le unitate essential de processos "mental" e "physic" in le organismo human, e implicar le integration del methodos de recerca in psychiatria con illos del altere scientias medical. Le Medicina Dental es penetrate, in multe problemas, con principios psychosomatic, como le sensation del dolor e le phenomeno del timor, illo del serramento, o le experientia de perder dentes, e le adaptation a dispositivos prosthetic.

THE USE OF HYPNOSIS IN DENTISTRY

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It is of value to briefly view the historical background and some of the more scientific definitions of the phenomenon of hypnosis.

Hypnosis has been known and used since ancient times. It has been practiced by different people and its techniques have been incorporated in various religious and medical cults.

HISTORY OF HYPNOSIS

The history of modern hypnosis might be considered to begin with Mesmer, an Austrian physician of the 18th century, who discovered that various diseases which could not be successfully treated by then known and accepted means, yielded to hypnosis. He soon became famous among laymen for his miraculous cures, but as a consequence of his unorthodox behavior aroused a great deal of antagonism among his fellow physicians and was expelled from the Vienna Medical Society. He left Austria and settled in Paris where he opened a clinic and effected the same astonishing cures with what then became known as "Mesmerism" or "animal magnetism." The latter term was adopted because Mesmer himself believed then that some form of magnetic current would emanate from the body of the hypnotist into the body of the subject and thus effect certain changes inside the subject's body, which, in turn, were responsible for the otherwise inexplicable cures.

The concept of animal magnetism was further brought in line with the known power of the magnet not only to attract certain objects, but to instill into them the same power as the original magnet possessed. This well known and still valid concept as far as the physical characteristics of the magnet are concerned was used by Mesmer to "magnetise" not only other people, but also objects. As far as Mesmer was concerned, the proof lay in the fact that these people or objects once magnetised by him in turn were able to effect the same miraculous cures as he himself had done before. Mesmer soon experienced the same difficulties in Paris as he had previously experienced in Vienna and finally an investigating committee was called into action, one of its members being the then United States Ambassador to France, Benjamin Franklin. Mesmer was branded a fake and his personal fortunes rapidly declined. Mesmerism and animal magnetism were soon considered out of bounds for any serious and ethical member of the medical profession.

About the year 1834, an English physician, Dr. Braid, became interested in the phenomenon of hypnosis. He was the one to first use the term "hypnosis," the Greek translation of the English word "sleep." Braid was the first to recognize the fact that the phenomenon of hypnosis was due to suggestion. He therefore can be considered the father of the more modern concept of hypnosis, although we know today that hypnosis has nothing to do with what we ordinarily consider sleep.

In 1886, Bernheim, Professor of Medicine at the University of Nancy, France wrote a book with Liebault entitled *Suggestive Therapeutics*. They clearly recognized, as Braid did before them, that suggestion was the basis of hypnosis and their approach to the subject was generally a more scientific one. Since Bernheim was an outstanding and reputable teacher of medicine in his time, another outstanding Professor of Medicine of the University of Paris became interested, a neurologist named Charcot. Charcot disagreed with Liebault's and Bernheim's concept that suggestion was the foundation of hypnosis. Instead he considered the phenomena of hypnosis pathological and to be induced and terminated by physical means such as magnets, etc. Charcot then had gathered around him students of neurology from all over the world. Among these was Sigmund Freud. Freud, who had become acquainted with hyp-

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nosis through Charcot in Paris, and found that he was not too successful with it. He therefore soon abandoned this method and discovered and used what became known as his "free association" technique (1893).

If the historical background of hypnosis is analyzed up to the time of the first world war, it can be concluded that with the condemnation of Mesmerism in the 18th century by the investigating committee, Freud's abandonment of hypnosis in favor of his free association technique, and the introduction of general and local anesthesia into general use, the downfall of hypnosis was complete as far as its use by the medical profession was concerned. Instead, laymen and quacks took over hypnosis which became largely an instrument for entertainment.

There have been throughout the years some serious students who have tried to look at the subject with objectivity and a desire of clearing up some of the unknown and therefore mysterious aspects of hypnosis. Among other questions that have defied a precise answer was the question of the nature of hypnosis. It appears that an exact answer to this question is still not known, although it is known that hypnosis is not sleep as it name implies and that it differs from it in various ways.

In order to understand best what hypnosis really is, it appears helpful to look at some of our modern definitions, which give us some information as to the parts, which, if properly combined and in presence of the right kind of catalyst, result in the sum total of the phenomenon of hypnosis.

DEFINITION OF HYPNOSIS

The simplest definition of hypnosis is the one which describes it as "an altered state of consciousness." A more descriptive definition is Winn's: "Hypnosis is a prestige and faith relationship in which the operator uses his advantageous position in order to influence by suggestion the patient's autonomous nervous system in order to increase or decrease bodily functions and to condition the mind accordingly." If we analyze this definition, we find that Winn speaks of a prestige and faith relationship and of the operator's advantageous position and of suggestion as the basic ingredients of the final product: hypnosis.

These basic ingredients are at the fingertips of every successful dentist. Patient-doctor relationship is based on prestige and faith, the dentist has an advantageous position, and he continuously uses suggestion in one form or another. This may be a slap on his patient's shoulder accompanied by some encouraging remark, a casual statement that he finds his patient's condition much improved, or any other more subtle form.

However, in order to complete the picture of hypnosis and its ingredients, we ought to consider some other definitions. Weinstein and Sloan have defined hypnosis as follows: "The science of hypnosis makes use of controlled suggestion to teach the patient to use his or her innate abilities, the doctor being the steering wheel, the patient the motor."

If we analyze this definition, we go one step further by not speaking of suggestion alone, but of *controlled* suggestion, which appears to be an essential distinction. We further learn of the patient's innate abilities, which the doctor merely guides into the proper direction. In other words, we now learn that the ability to enter the state of hypnosis is fundamentally innate in all our patients, to add to the fact that the doctor, through prestige and faith, his advantageous position and his use of suggestion is the ideal hypnotist.

In order to complete the picture of what hypnosis is, we may add my definition: "Hypnosis is a physio-psychological state during which the patient's subconscious is open to suggestion by the doctor and during which controlled suggestion will lead to variations in physical or mental behavior."

If we consider how much advantage the dentist has taken of his favorable position to induce hypnosis in the past, we find that its use in dentistry is not as recent as it appears to be. It has been used for a considerable number of years in the United States and possibly even longer in other parts of the world.

However, the use of hypnosis in the healing arts and in particular in dentistry has received

a tremendous impulse after the second world war, and it appears that there is a steadily widening circle of dentists who seek to acquire knowledge and skill in its use.

A more frequent appearance of articles on this subject in the professional literature and the greater number of lectures and clinics devoted to this subject at dental meetings is apparent.

Laws have been enacted in parts of Europe and are in preparation here to restrict the use of hypnosis to the medical and allied professions. Some of our universities have started to teach hypnosis on a postgraduate level.

USE OF HYPNOSIS

The use of hypnosis in dentistry has a greater following than in other branches of the healing arts, including psychiatry and psychology. It appears that this picture may change soon, since more and more physicians practicing in various branches of medicine, as well as psychologists are becoming aware of the value of hypnosis in their respective fields.

This increased use by the profession has helped to gradually dispel from the mind of the laymen and many professional men as well, the association of hypnosis with mysticism, spiritualism, black magic, the staring eye, the stronger will imposed on the weaker mind, and other misconceptions. Such distorted impression has been fostered by dramatic newspaper accounts, magazine articles, the movies, T.V. and last, but not least, the stage hypnotist, for obvious reasons. All of us have been exposed to this distortion over a great number of years and no doubt it has affected our attitude toward the subject. It is needless to emphasize that the practice of hypnosis by the professional man is quite different from the picture gained by exposure to the above mentioned sources.

Let us consider then how and when we use hypnosis in the field of dentistry today. First of all it appears that opportunities for its use present themselves in every practice. This does not mean that we advocate its use on a routine basis. Quite to the contrary, we consider hypnosis only a valuable adjunct to our armamentarium, to be used if and when needed: that is, *if and when other standard procedures do not lead to desired results.* We use hypnosis in addition to, not instead of, other established and valuable dental procedures. If used in such selective fashion, it can serve both patient and dentist extremely well.

INDICATIONS FOR HYPNOSIS

The specific indications for the use of hypnosis in general dental practice are:

1—To reach those patients who would not submit to any dental treatment which includes, in many cases, the routine dental examination, not to speak of local or general anesthesia or other more specific dental therapy.

There are some practitioners who insist that they have never had a patient in their office who did not lend himself to some form of treatment. This is quite true because the patients we have in mind never reach their offices. These patients are the dental cripples who escape our attention because they are never seen by us, yet they represent a much larger group than is generally realized.

2—To overcome fear and tension; to counteract previous unpleasant experiences or negative influences; to raise the threshold of pain in general; to generally relax patients while under treatment.

3—For premedication in operative and surgical procedures in addition to or instead of chemical premedication; to allow for a reduction of chemical anesthesia such as procaine, nitrous oxide or others; to reduce the unpleasant after-effects of chemical anesthetics and dental procedures.

4—To replace chemical anesthetics in such extreme cases where their administration is contraindicated for reasons of systemic health.

5—To overcome such handicaps to good dentistry and dentist-patient relationships as gagging during impression taking or while taking roentgenograms or while wearing dentures, or even during the routine use of the toothbrush.

6—To overcome lack of cooperation in wearing appliances such as biteplanes or other

orthodontic or prosthetic appliances, provided that such lack of cooperation is not due to faulty construction of the appliance in question.

7—For the correction of habits which directly or indirectly interfere with our dental work or the health, function and esthetics of the dental apparatus, such as thumb and finger-sucking, pencil and nail biting, bruxism and smoking. Here caution is advised, as it is not the dentist's job to administer psychotherapy. This subject is so complex that it will be dealt with in detail elsewhere.

8—Finally, although many more clinical uses may be mentioned, hypnosis can be used to control the flow of saliva and capillary bleeding to some extent, and in the form of post-hypnotic suggestions to overcome post-operative sequelae such as pain and bleeding if desirable.

After having considered the indications for the use of hypnosis in dentristry, we will now briefly and in general terms consider how hypnosis is applied in the dental office.

APPLICATION OF HYPNOSIS

A preparatory explanation and indoctrination is given by either nurse or dentist or both on different levels as to the general use of hypnosis and the particular indication for its use in the specific case at hand. This serves to assure the patient's cooperation and it helps the dentist become acquainted with the psychological make-up of his patient.

The most common misconceptions encountered in this setting are: the superior will of the operator exerted over the weaker subject; the necessary lack of intelligence; the fear of committing immoral acts; of revealing secrets, etc.

This leads to a discussion of the dangers of hypnosis. The question is often asked, "Is the use of hypnosis dangerous?" There is no doubt that it can be dangerous. It is dangerous in the hands of the inexperienced, the untrained, the unscrupulous, the unethical.

The properly trained and licensed professional man, who has been imbued with a sense of professional conduct and ethics, would necessarily apply the same professional conduct to the use of hypnosis in his practice as he would to any other professional service rendered by him. If applied with such criteria, there is no doubt that hypnosis is far less dangerous than many of the other services that we render in our everyday practice.

The fact is that a search of the world literature does not reveal a single case of death caused by the use of hypnosis proper. Unfortunately, the record is not equally as good as far as many other professional services are concerned in the performance of which the professional man has to take a calculated risk while serving his patient to the best of his ability.

The point is often made, whether we can provoke a psychosis by the use of hypnosis and if hypnosis is not dangerous, if used in the schizophrenic. The answer again is yes; one can provoke a psychosis and hypnosis can be dangerous, if used in schizophrenics. But one may also provoke a psychosis by other means completely unrelated to hypnosis and any other professional service may be equally, if not more dangerous in the schizophrenic with this exception:

1. the successful induction of hypnosis in mentally aberrated individuals is extremely difficult.
2. the average dental situation does not and should not lead to deep probing and conditions outside the sphere of interest and training of the dentist but clearly and definitely limit the induction and depth achieved to the problem at hand.

Thus, as a rule, no more than a light to medium depth stage should be required for most practical conditions occurring in the dental office.

3. The properly trained dentist, and by proper training we include adequate training in hypnosis under proper auspices, will recognize existing mental aberrations more quickly and more clearly in the very beginning of hypnosis. He will, in fact often recognize them *before* induction of hypnosis. In such case, the operator should of course take proper measures to assure the patient's compe-

tent handling by referral to the psychiatrist.

Hypnosis is dangerous only if not used properly and even then it is possibly far less dangerous than other dental services would be under similar conditions.

Once all misconceptions are successfully dispelled, and the patient is acceptable and has expressed his willingness to enter the hypnotic state, we may suggest that he be tested as to his susceptibility and cooperation.

The most common tests are the so-called postural sway-test, the eyeball-set-test, the handclasp test, Chevreult's test, the picture test, circle test, thermal test and others.

The value of these susceptibility tests is questioned by some. It is true that they have no direct bearing on the success in inducing the hypnotic state. In practice, however, they have proven their value as a simple, quick, yet very effective way of showing the patient how suggestion works and often it is found that the effect of such a test on the patient is so profound that the patient goes right into hypnosis. The dentist gains some more insight into his patient's degree of suggestibility, general attitude and reaction, and thus is able to adapt his procedure accordingly.

TECHNIQUES OF INDUCTION

The next step would be the induction proper. The various techniques of induction, it is emphasized, should be acquired through properly conducted and supervised courses. Here we intend to mention only the most commonly used techniques in the dental office:

1. Progressive relaxation
2. The handclasp technique
3. The eye-fixation technique
4. The picture-visualization or imagery technique
5. The placebo technique
6. The use of music

Many other methods of induction may be employed with almost equal success. The method chosen should vary according to patient and circumstance and many times a combination of several techniques will be used in practice.

As dentists, we are naturally most interested in having our patient sufficiently relaxed in the chair to enable us to do our work without interference. At the same time, we like to see our patient in a cooperative mood and free of unfavorable physical and mental reactions.

All this can, usually, be achieved without going into the deeper stages of hypnosis. Therefore, we do not go any further in our induction than is necessary to accomplish our main goal, which is good dentistry and not deep hypnosis. The properly managed patient generally enjoys the calming, relaxing effect of hypnosis and looks forward to its future application.

However, we often find that once the existing obstacle to the administration of good dental services for our patient has been removed by the use of hypnosis, it becomes unnecessary to employ hypnosis in future sessions. All patients are prepared for this during the initial interview ,while in the hypnotic state, through post-hypnotic suggestion, and by casual suggestions given during the waking stage.

In final analysis, we find that the more familiar the dentist is with the techniques and principles underlying the use of hypnosis, the less he actually needs to employ rigid hypnotic procedures. He will often achieve almost equal results with the constant and purposeful use of controlled suggestion, which then assumes the character of waking hypnosis.

HYPNOSIS AS AN ADJUNCT

In conclusion, we may say that the use of hypnosis in dentistry is an adjunct to and not a replacement of established dental procedures, and as such it can be a very valuable adjunct.

It is not a cure-all, does not solve all our or our patient's problems, and does not always work without failure. It does not work too well with mentally aberrated individuals. It works particularly well however, with so-called hypersensitive patients. In our experience, most patients who are hypersensitive to dental treatment, have become so because they constantly feed negative auto-suggestions into their sub-

conscious with regard to the dental situation. In dealing with such a hyper-suggestible patient by the use of controlled positive suggestion we can then often reverse the situation and get extremely relaxed and cooperative patients where the need appears to be greatest. Once the obstacle to standard dental procedure is overcome, there is no further need for its use in the particular instance.

The method of induction should preferably be non-authoritarian and permissive in nature.

The average patient is capable of entering hypnosis; variations of degree are obvious.

The average dentist is capable of inducing hypnosis, and by the very nature of his position, becomes *with adequate training and practice*, an excellent hypnotist.

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BIBLIOGRAPHY

1. Ament, Philip: Relaxation of excitable patients with hypnosis. J. D. Med. 3:70-77, July 1948.
2. Ament, Philip: Psychotherapy in patient relaxation. J. D. Med. 5:3-7, Jan. 1950.
3. Ament, Philip: Illuminating facts in psychosomatic dentistry. North-West Den. 29:107-110, April 1950.
4. Barnett, S.: Hypnotic suggestion in Dentistry. Brit. D. J. 88:96-101, February 17, 1950.
5. Brennan, Margaret and Gill, M. M.: Hypnotherapy: a Survey of the Literature: . . . N. Y., International Univ. Press, 1947.
6. Campbell, Douglas G.: Psychosomatic mechanisms in oral diseases. Am. J. Orthodont. and Oral Surg. 31: Sec. Oral Surg. 440-446, July 1945.
7. Cherry, Harry and Pallin, Irving M.: Music as a supplement in nitrous oxide-oxygen anesthesia. Anesthesiology 9:391-399, July 1948.
8. Estabrooks, George H.: Hypnotism. N. Y., Dutton and Co., 1947.
9. Gilbert, Robert S.: Oral lesions of psychogenic origin. D. Survey 23:259, February 1947.
10. Heron, William T.: Clinical Applications of Suggestion and Hypnosis. Springfield, Ill., Thomas, 1950.
11. Heron, William T.: Hypnosis in dentistry. Brit. J. Med. Hypn. Spring, 1950.
12. Hull, Clark L.: Hypnosis and Suggestibility. N. Y., Appleton-Century-Crofts, 1933.
13. Kline, Milton V.: Freud and Hypnosis. N. Y., Julian Press, to be published.
14. Kubie, L. S. and Margolin, S.: The process of hypnotism and the nature of the hypnotic state. Am. J. Psychiat. 100:611-622, March 1944.
15. LeCron, Leslie M. and Bordeaux, Jean: Hypnotism Today. N. Y., Grune and Stratton, 1947.
16. LeCron, Leslie M.: Experimental Hypnosis. N. Y., Macmillan, 1952.
17. Marcuse, F. L.: Hypnosis in dentistry. Am. J. Orthodont. 33: Sec. Oral Surg. 796-809, November 1947.
18. Moss, Aaron A.: Applied hypnosis for the dentist. D. Items Interest 71:189-197, February 1949.
19. Moss, Aaron A.: Walking hypnotic suggestion—a case report. D. Survey 25:853-855, June 1949.
20. Moss, Aaron A.: The Confident dentist can eliminate gagging by waking hypnotic suggestion. D. Survey 26:198-199, February 1950.
21. Moss, Aaron A.: Suggestion theory and practice. J. Am. Soc. Psychosomatic Den. 1:14-15, July 1954.
22. Moss, Aaron A.: Operative hypnodontics. Oral Hyg.: 41: 961-965, July 1951.
23. Moss, Aaron A.: Hypnodontics or Hypnosis in Dentistry. Brooklyn, Dental Items of Interest Pub. Co., 1952.
24. Mintz, Victor W.: When "suggestion" eliminates gagging, dentures do 24 hour duty. D. Survey 27: 653-654, May 1951.
25. Raginsky, Bernard B.: Mental suggestion as aid in anesthesia. Anesthesiology 9:472-480, September 1948.
26. Raginsky, Bernhard B.: Hypnotism and its relation to anesthesia. J. Conn. Med. Soc. 2:527-533, November 1938.
27. Raginsky, Bernhard B.: Preanesthetic management of the dental patient. J.A.D.A. 49:672-683, December 1954.
28. Ryan, Edward J.: Psychobiologic Foundation in Dentistry. Springfield, Ill., Thomas, 1946.
29. Stolzenberg, Jacob: Suggestion; an adjunct in orthodontic treatment. Am. J. Orthodont. 36:198-206, March 1950.
30. Stolzenberg, Jacob: Psychosomatics and Suggestion Therapy in Dentistry. N. Y., Philosophical Library, 1950.
31. Schneck, Jerome M.; Hypnosis in Modern Medicine. Springfield, Ill., Thomas, 1953.
32. American Hypnodontic Society. Constitution. Bull. Am. Hypnodontic Soc. 1: no. 1, October 1953. Supplement.
33. Traiger, Harry: Children and hypnodontics; difficult patients lose their dental phobia. D. Survey 28:1203-1205, September 1952.
34. Weinstein, Jules H.: Hypnotism in dentistry. D. Concepts 2:5-8, July 1950, (Pt. II) 2:9-14, October 1950, (Pt. III) 3:10-14, January 1951.
35. Weiss, Edward: Psychosomatic aspects of dentistry. J.A.D.A. 31:215-220, February 1944.
36. Weitzenhoffer, Andre M.: Hypnotism. N. Y., Wiley and Sons, 1953.
37. Winn, Ralph W.: Scientific Hypnotism. Boston, Christopher Pub. House, 1939.
38. Wolberg, Lewis R.: Medical Hypnosis. N. Y., Grune and Stratton, 1948. 2 v.
39. Wookey, E. E.: Uses and limitations of hypnosis in dental treatment. Brit. Dent. J. 65:562-563, November 1938.

LE EMPLEO DEL HYPNOSE IN DENTISTERIA

Dr. med. dent. e med. H. W. Marcus

SUMMARIO IN INTERLINGUA

Se trova que quanto plus cognoscimentos ha le dentista del technicas e principios basic al empleo del hypnose, tanto minus ille require emplear procedimentos hypnotic ver e proprie. Multe vices ille ganiara resultatos quais equivalente per le uso constante e systematic del suggestion controlate, le qual de iste maniera assume le character del hypnose veliante.

Nos pote dicer que le empleo del hypnose in dentisteria auxilia e non reimplacia le procedimentos de dentisteria classic, e pote auxiliar los in modo multo valente.

Illo non es un panacea, ni solutiona tote le problemas del practicante e del patiente, ni resulta efficace in cata caso. Le successo non es multo satisfacente in personas affectate de aberrantia mental. Illo es al contrario excellente in le denominate hypersensibiles. Le major parte del patientes hypersensibile al therapia dental ha devenite tal perque illes constantemente invia autosuggestiones negative in le subconsciente concernente le milieu dental. Per le tractamento de tal patientes hypersuggestibile con le uso de positive suggestiones controlate, nos pote talmente subinde transponer le situation e facer le patientes extrememente relaxate e cooperative quando le necessitate pare maxime. Un vice surmontate le obstaculos al normal procedimento del dentista, le technica hypnotic non se require plus in le mesme caso.

Le methodo de inducimento essera de preferentia non-autoritari e permissive in su character.

Le patiente median es capace de entrar in hypnose; con evidente variationes in grado. Le dentista median es capace de inducer hypnoses, e gratia al natura mesme de su stato ille deveni hypnotista adepte per medio de instructiones e experientias appropriate.

IS DENTISTRY AN ART OR A SCIENCE AND WHAT IS THE MOST EFFECTIVE WAY OF TEACHING DENTISTRY AS A PROFESSION?

JOSEPH S. LANDA, D.D.S., F.A.C.D.*

If there is anything about which dentists the world over are in perfect agreement, it is that dentistry is both an art and a science. However, to say that dentistry is a science and an art seems redundant because art is also a science, though of finer quality and more imaginative in nature. To clarify why I equate art and science, we must find suitable and correct definitions for these two terms. The time-honored definition of science reads: Science is an accumulation of knowledge in a properly organized manner. Art could be defined as a science disciplined and reinforced by a vivid imagination. Art, in the broad sense of the word, may, therefore be considered as a superior stage of science itself. Conant,[1] of Harvard University, has long ago pointed out that science is based upon common sense and that good judgment is the ultimate result and the final product of the acquisition and proper utilization of the accumulated experience by good common sense. This concept may be paraphrased as follows: Good judgment is based on experience, but experience itself may at times be based upon poor judgment; that is to say, the errors committed while acquiring the knowledge to avoid their repetition. Thus we realize that the physician, dentist, engineer, lawyer, architect, painter, musician or sculptor has as a final product of his education, but one thing to offer for the welfare of mankind and that is good judgment.

Let us now attempt to compare the good judgment of the scientist with that of the artist.

For instance, not infrequently do we hear at scientific discussions one scientist branding the statement of another as "pure fiction" i.e. entirely unscientific. Doesn't this indicate unawareness that pure fiction is perhaps more scientific and surely a truth of a more lasting character than his own science? Anna Karenina, War and Peace, and Ressurection by Tolstoi as masterpieces in the art of fiction will perhaps outlive the great discoveries of even such a giant in science as was Pasteur. Tolstoi delineated characters who will always remain alive, whereas our concepts in the science of bacteriology are continually changing. The theory of Relativity of a scientist of the stature of Einstein may be questioned tomorrow, but the works of Michael Angelo, Leonardo de Vinci and Rembrandt endure as truth. We may be justified in saying that science is fiction because what is true today may become fictitious tomorrow, whereas artistic fiction is really science, since it is as enduring as truth. As a matter of fact the greatest thing about science is that it is not static but dynamic and continually changing. On the other hand, I am fully aware that in art too, there is something akin in nature to what happens to outmoded hypotheses in science. The succeeding schools of art look upon their predecessors as inadequate in their representation and interpretation of reality. To the modernist, reality is the inner essence of things rather than their outward appearance. The traditionalist in art, on the other hand, defends his position by labeling modernistic art not as a genuine interpretation but rather as a distortion of reality. This same debate has been going on in literature too, and for that matter in music. A scientific hypothesis is the truth as long as it serves but it ceases to be regarded as true as soon as another offers a better and more generally applicable explanation of phenomena. In art, a form of expression, a concept of what is reality remains valid as long as it satisfies the viewer, reader or listener. However, the basic and essential difference between science and art is that no form of artistic expression on a high level is ever proved as invalid as a disproved scientific hypothesis.

Art continues to live in its imaginative component after a measurable scienctific hypothesis

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has long fallen by the wayside. The practice of medicine and dentistry being both an art and a science cannot, therefore, be mechanized like the science of physics or chemistry. The medical and dental professions, unlike engineering, can no longer afford to make blueprints prescribing diagnosis and planning of the treatment based solely on reports of mechanistic laboratory tests. The engineer is dealing with inanimate mechanical foundations, whereas the physician and dentist are concerned with biologic and psychologic sensibilities of human beings. In fact, those members of the healing professions who take out only a small fraction of their time for just a glimpse at the engineering literature find to their great surprise that similar discussions, for very much similar reasons, are now going on even in the educational system of engineering. Leading members in this profession have come to the realization that the engineering education is becoming too mechanistic, to the point where even mathematics of engineering is being taught without adequate reference to its theory and principles, but rather as a collection of formulas, to be looked up in a manual and then be applied, whether understood by the engineer or not.

This writer's feeling is that medicine and dentistry entrusted with the life, health and welfare of mankind, have become highly technological and superbly mechanized. Because of their tremendous technological progress, the two professions have become psychologically conditioned to continue along the same road in spite of changing social conditions and cultural trends. The healing professions are not keeping abreast of these greatly and rapidly changing situations though they should be among the leaders in the understanding and appreciation of these changes. Who is in a better position to diagnose the maladies of mankind and to initiate better treatment for these maladies than the medical and dental professions? Those who are continually engaged in diagnosis and treatment of the ailments of individual patients should, by the very nature of their vocation and experience be in a more favorable position to diagnose the diseases that plague mankind collectively.

To achieve this, a radical change in the approach to diagnosis must be initiated. An approach that would consider the human being not as a machine consisting just of organs and tissues, but as a total personality continually in a state of severe stress and strain because of a variety of fears, anxieties and emotional disturbances resulting from lack of physical and emotional security. Heretofore, we have been mainly engaged in the treatment of physical symptoms. Now we are beginning to realize the tremendous impact of emotional health on the physical health of our patients. We can already discern in medical and dental literature the signs of re-orientation of medical and dental science. Thus, the epoch making researches of Pavlov[2] in reflexology, with conditioned reflexees and reflex actions, have been studied in isolated fashion without due consideration to the significance and implications of these findings in the physiology of the total personality. Cannon's[3] theory of homeostasis in emergency situations (fight or flight) had for quite some time not been given the high recognition it really merited. Neither had the research work of Selye[4] on stress in the General Adaptation Syndrome received its due recognition for a very long time. It was regarded as mere interesting experimentation on animals. Their possible impact on human physiology was long overlooked.

These reasearch problems are now studied diligently and carefully and it is becoming apparent that they run more or less parallel with the psychosomatic approach to the study of health and disease. When an organized system of study of all these research problems is effected with due consideration to correlation and integration of biologic and psychologic phenomena, a new chapter may be added to textbooks on human physiology. Whether this chapter will be under the heading of psychosomatic physiology, psychologic physiology or psychogenic physiology matters little, provided the new chapter is written.

REORIENTATION OF DENTISTRY

In our present social structure what is the most effective way of teaching dentistry so as

to enable the new dentist to face and discharge his professional and social responsibilities? Before suggesting an answer, let us first evaluate the status of dentistry today.

I am in a fortunate position to have daily contact with undergraduate, graduate and postgraduate students in the field of dentistry. On occasions, when dentistry is referred to as an art and a science. I would interpolate a question: "What precisely do you mean by this ambivalent nature of dentistry?" The usual answer is: "Dentistry is a science because it is based on accumulation of systematized knowledge; it is an art because we are engaged in performing artistic work in carving gold crowns, inlays, bridges; staining porcelain and acrylic jacket crowns to enhance their natural appearance." I most readily grant that there is art in the proper construction of anatomically correct and esthetically pleasing gold or porcelain crowns. But I am convinced that our talents and capacities are misdirected if our artistic imagination is utilized solely for carving and staining crowns. After all, the fundamental mission of the healing professions is *diagnosis and planning of treatment*. Failure here may endanger life or inflict other very grave loss in addition to augmenting and prolonging suffering. Thus in confusing Ludwig's angina with an ordinary dento-alveolar abscess the patient may pay for the mistake with his life. A misdiagnosis for the construction of removable partial dentures in instances when fixed bridges were indicated may cost the patients the price of their remaining teeth and alveolar processes.

A misconceived diagnosis may be disastrous for the patient and doctor alike. I could go on citing a vast number of diseases which present serious medical and dental problems and for which no solution can be found until diagnostic clues of a more positive nature have been added to our armamentarium. A diagnosis should be as broad in scope and thoroughness as it is possible and should be applied to the total personality of the patient after thorough inquiry into his biologic, psychologic, social and economic status.

A human being has human problems, and cannot be treated mechanistically as a chart number. He reacts to changes in our social structure and the concomitant changes in the social order and human values. Toxins emanating from our disoriented and badly shaken social and economic structures have poisoned more lives than the bacterial poisons. It is obvious that the dentist cannot remain just a scientific technician and hope to raise the prestige of dentistry in the public esteem. The dental profession must not only keep abreast of the times in cultural trends and social thinking but must always be one step ahead of the times in order to assume real leadership in dental education as well as in evaluation of human values. We should be concerned not only with a tooth, natural or artificial, but with the total personality of the patient with all his fears and anxieties, his frustrations and humiliation, his needs and his cravings. On such a level of practice both our patients and we would reap immense benefits. The vast experience to be gained from such studies of the complicated individual histories of our patients would give us a deeper insight into human nature even when applied to society collectively. Thus, by learning more about the impact of society on the individual and the individual upon society we will be able to render a broader, more inclusive service to our patients and at the same time we will become more adequately prepared to exert leadership in civic and social affairs in our respective communities.

Dental education should assume this responsibility of leadership in reorienting dentistry so that it may be practiced as an art and as a science in the broadest sense of these terms. Dentistry, of course, is an applied science. But the application of scientific knowledge to the individual and individualized human being is probably the greatest art there is. How can this great art be taught? Certainly not by augmenting the requirements in either the predental or dental school curriculum. The remedy lies not in the introduction of new and extensive courses, but in more effective and higher quality teaching. We thus arrive at the realization that greater emphasis on and thoroughness in training in diagnosis is a dire need in present-day dental education. The departments of diagnosis

of dental schools should consist of teachers of the highest calibre in biology, psychology and *in the art and science of clinical diagnosis*. The department of diagnosis should be allotted adequate time by the deduction of two or three days a year respectively from each of the other departments. Such a reshuffling of assignments could not perceptibly affect the interests of the other departments, but would make the department of diagnosis the luminous ray of hope for progress in dental education, dental research and dental practice.

Teaching of dental diagnosis should commence with the freshmen class, on the level appropriate to them, and should continue throughout the four years. It would start with those areas of human relations, social responsibilities and psychologic interaction between dental students and patients that are within the grasp of students who have completed their predental course. The freshman should commence to learn in the diagnostic department how to make a clinic patient feel perfectly at home; how to get the past and present history of patients without making them feel as if the sanctum sanctorum of their private lives were being violated. The freshman should commence to learn about sympathy, tactfulness and kindness, as components of dental practice and the dentist's personal equipment. Having such close contact with patients under the guidance of outstanding teachers and experienced upper classmen should be extremely instructive to the freshmen. In this milieu he will cultivate a proper approach, a sound outlook and a wholesome attitude towards his professional career and toward his future patients. Programs in this spirit but on different levels should be worked out by the staff of the department of diagnosis for all four classes so that each student will study diagnosis and treatment planning on a high level and with an intensive schedule during all four years of his stay in the dental college.

This high level teaching may further be reinforced by inviting at frequent intervals as guest lecturers, some of the most outstanding men in the field of diagnosis—general surgeons, specialists in internal medicine, psychiatrists and biologists for special lectures on correlation and integration of structure and function. The students in the diagnostic department should be greatly benefited by the fresh concepts and new ideas that will be presented to them by these eminent special lecturers.

In addition, regular monthly meetings should be organized between the heads of the various departments and the entire staff of the diagnostic department. The main purpose of these meetings should be to correlate and coordinate the various views that may prevail on the subject of diagnosis into a harmonious system of teaching. This will be reflected in a kind of teamwork teaching that may be likened to the art of a concert performance by an orchestra. Each musician is using his individual instrument in an individualized manner to the best of his ability for the benefit of the whole—the concert. But the first tone of all the instruments must be adjusted in unison to complete harmony. Last but not least the diagnostic department should have the choice location in the building and the highest type of equipment and such other facilities that are essential to enhance the finest quality and highest efficiency in teaching this most important subject. We must bear in mind that the diagnostic department is the place where the freshman student gets the first impression of his alma mater, the patient gets his first impression of the kind of health service he will be offered in the institution and the teacher gets the first impression of the scholarly work expected of him by the tools that are placed at his disposal. It is essential that the first impression should inspire a high degree of respect and confidence in the institution and in the profession.

Progress and achievements in dentistry in the last half century have been based on discoveries in physical sciences. No one can deny that the success achieved by the dental profession in the technologic area has surpassed all expectations. But it also is true that these very excellent accomplishments with their concommitant lucrative remuneration have induced in the profession a certain measure of stubborn resistance to change vis-a-vis world changes that are deeply affecting every aspect of human life.

Our profession must not only move with the times but must be a step ahead of the times, in order to foster adequate research in biologic sciences and closer contact with psychologic and social disciplines. Our brilliant accomplishments in the past do not carry with them promises of equal success in the future if we turn static and complacent by living in the glory of the past. The world around us is changing rapidly and radically and our students are entitled to a dental education that is in keeping with the times.

The cultivation of the qualities of character for human relations does not suddenly or accidentally emerge from a vacuum. The students need inspiring teachers if they are to develop initiative and responsibility in rendering to their patients a health service on the highest possible level. Diagnosis and treatment planning are now emerging from their technologic and semi-biologic state into a psycho-bio-economic discipline,—three dimensional in nature and significance. It is in this direction that dental teaching should go.

In this day and age of overdepartmentalization and overspecialization with an apparant tendency of individual specialties toward isolation, the department of diagnosis, being all inclusive, is the only one that can integrate medical and dental education into a unified and harmonic discipline for viewing the patient as an integral human being. Finally, another concern appropriate to a reoriented program of dental education should be that for the student's health. Surely he must be guarded against breakdown under growing demands and burdens of training if members of our profession are to be able to meet the challenges of an active practice. Dental schools should seek to graduate healthy and enthusiastic professionals. Further increases in requirements would work hardships upon the health of the student.

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BIBLIOGRAPHY

1. Conant, James P., Science and Common Sense. Yale University, New Haven, 1951.
2. Pavlov, Ivan Petrovitch, Conditioned Reflexes: An Investigation of the Physiological Activity of the Cerebral Cortex, Transl. by G. V. Anrep, Milford, London, 1927, 430 pp.
3. Cannon, Walter, B. Automatic Neuro-Effector Systems, Macmillan Co., N. Y., 1937.
4. Selye, Hans. The Story of the Adaptation Syndrome. Acta, Inc., Montreal, 1952.
5. Blass, J. Lewis and Tulkin, Irvin, Successful Dental Practice, J. B. Lippincott, Philadelphia, 1946.

ES ARTE O SCIENTIA LE DENTISTERIA, E QUAL ES LE MODO PLUS EFFICACE DE SU INSENIAMENTO QUA PROFESSION?

Dr. chir. dent. Joseph S. Landa, F.A.C.D.

SUMMARIO IN INTERLINGUA

Le indubitate progressos de nostre professsion in procedimentos technico-prosthetic pare non excluder frequente insuccessos evasive in le prosthese de dentaturas. Isto ha conducite le educatores dentistas a recognoscer que le causas pote esser de natura biologic plus tosto que technologic. In effecto, illes es de accordo bastante general que correlationar e integrar le disciplinas biologic con le procedimentos clinic es prender le via correcte si nos vole solutionar unos del problemas penose in nostre systema de inseniamento e nostre practica quotidian del dentisteria.

Se impone demandar, qui va interprender tal therapia curricular? Le docentes de materias biologic volerea delegar iste function al clinicos, e istes relegar lo al biologos e chimistas. Io inclina a pensar que un prime passo necessari esserea le complete reorganisation e reorientation del consultorio in clinicas diagnostic pro devenir un servicio superior de diagnose, como schizzate in parte e tentativemente in iste opera. Isto deberea offerer un practic termino medie in le direction volite.

Ladies' Program

— 11th ANNUAL CONVENTION

AMERICAN ACADEMY OF DENTAL MEDICINE

May 29, 30, 31, and June 1, 1957, Sheraton Plaza Hotel, Boston, Mass.

Wednesday, May 29

7:00 P.M. Registration
8:00 P.M. —
11:00 P.M. Hospitality Party
Copley Room

Thursday, May 30

9:30 A.M. Historic Boston... Bus Tour
See all the places you've read about in your history books.
12:00 Noon Luncheon .....Oval Room
Speaker
2:00 P.M. Cambridge, Lexington, Concord— .....Bus Tour
Where the shot was fired that started the Revolutionary War.
5:00 P.M. Cocktail Party..Oval Room
by the Massachusetts Section
6:00 P.M. Dinner .....Oval Room

Friday, May 31

9:15 A.M. Beautiful South Shore
Bus Tour
12:00 Noon Luncheon .....Toll House
2:00 P.M. Plymouth Rock and the Land of The Pilgrim Fathers
6:30 P.M. President's Cocktail Party
Oval Room
8:00 P.M. Dinner Dance....Oval Room
(Dress optional)

Saturday, June 1

9:00 A.M. —
12:00 Noon
Shopping in Boston's famous Specialty Shops and Department Stores.
12:30 P.M. Award Luncheon
Oval Room

11TH ANNUAL CONVENTION

AMERICAN ACADEMY OF DENTAL MEDICINE

Sheraton Plaza Hotel Boston, Mass.

May 29, 30, 31 — June 1, 1957

Dr. Robert Diamond
100 Boylston St.
Boston, Mass.

Dear Bob:

OF COURSE I WILL ATTEND THE ANNUAL CONVENTION!

☐ Enclosed is my Registration Fee $35.00*
☐ Enclosed is Ladies' Registration Fee $35.00*
☐ Registration Fee for Non-Member $40.00*

*This covers all fees for scientific sessions, luncheons, banquets, cocktail parties, and ladies' tours of the entire convention.

I will bring ..... children, and will (not) need a baby sitter.

Dr.....

Address.....

☐ I have filled out and mailed the Hotel Reservation card.

AMERICAN ACADEMY OF DE

SYMPOSI

WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, MAY 29, 3 1, 19

Wednesday, May 29

2:00 P.M.—Board of Trustees Meeting—Back Bay Room

8:00 P.M.—Board of Trustees Meeting—Back Bay Room

8-11 P.M.—Hospitality Party—.....Copley Room

Thursday, May 30

9:00 A.M.—

5:00 P.M.—Registration

Scientific Session

Topic: "Pain"

9:00 A.M.—Call to Order.....Greetings

9:30 A.M.—"PAIN OF ORAL ORIGIN"

PHILIP J. SHERIDAN, D.M.D.—Chief, Department of Oral Surgery, St. Francis Hospital; Attending Oral Surgeon, McCook Memorial Hospital, Hartford, Conn. Attending Oral Surgeon, Rocky Hill State Hospital, Rocky Hill, Conn. Consulting Oral Surgeon, Norwich State Hospital, Norwich, Conn. Consulting Oral Surgeon, V.A. Administration, State of Conn.

10:30 A.M.—"PAIN ORIGINATING IN AREAS ADJACENT TO THE ORAL CAVITY"

FRANK D. LATHROP, M.D.—Otolaryngologist, New England Baptist Hospital, New England Deaconess Hospital; Department Otolaryngology, Lahey Clinic, Boston, Mass.

11:30 A.M.-12:00 Noon—Question and Answer Period

12:00 Noon—Reception .....Oval

12:30 P.M.—Luncheon .....Oval

"THE DOCTOR DISCOVERS THE PUB

FRANCES BURNS, Reporter and Feature Wri the Boston Globe. Recipient—Mass. Medi ciety Award for Best Medical Reporting.

Scientific Session - Venetian R

2:00 P.M.—"PAIN OF NON-ORGANIC ORIGIN"

MILTON GREENBLATT, A.B., M.D.—Assistan ical Professor of Psychiatry, Harvard M School; Director of Laboratories and Resea Assistant Superintendent of the Massac Mental Health Center, (Boston Psychopathi pital), Boston, Mass.

3:00 P.M.—"THE NEURO-BIOANATOMIC MECHANISM OF PAIN A IN THE HEAD AND NECK"

BENJAMIN SPECTOR—M.D.—Professor of atomy and Chairman of Department; Profe the History of Medicine, Tufts University of Medicine; Consultant in Bioanatomy, England Center Hospital, Boston, Mass.

4:00 P.M.—Question and Answer Period

5:00 P.M.—Cocktail Party .....Oval by the Massachusetts Section

6:00 P.M.—Dinner .....Oval

You have the evening free to enjoy the th to see historic Boston.

Friday, May 31

9:00 A.M.—

5:00 P.M.—Registration

9:00 A.M.—Business Meeting .....Copley

DENTISTRY — *11th Annual Convention*

SION "PAIN"

Y 29, 30 & 31, 1957 • SHERATON PLAZA HOTEL, BOSTON, MASS.

In

ntific Session - Venetian Room

A.M.—"OCCLUSAL DISHARMONY AND TEMPOROMANDIBULAR JOINT DISTURBANCES AS SOURCES OF PAIN"

Case Presentation and Analysis

M CHASENS, D.D.S.—Assistant Clinical Pro- of Periodontia and Oral Medicine, New University College of Dentistry, New York, York.

duction by Samuel Charles Miller, D.D.S., ssor and Chairman of the Department of dontia and Oral Medicine, New York Uni- College of Dentistry.

P.M.—Award Luncheon ..... Oval Room

ntific Session - Venetian Room

P.M.—"PERIPHERAL VASCULAR DISEASE AS A SOURCE OF PAIN"

ARD A. EDWARDS, M.D.—Associate Professor natomy, Harvard Medical School; Associate rgery, Peter Bent Brigham Hospital, Boston,

P.M.—"THE NATURE AND CAUSATION OF HEADACHE"

LD G. WOLFF, M.D.—Professor of Medicine rology) Cornell University Medical School, York, N. Y.

P.M.—Question and Answer Period

P.M.—President's Cocktail Party— Oval Room

P.M.—Dinner Dance ..... Oval Room

Saturday, June 1

Scientific Session - State Suite

9:30 A.M.—"SURGICAL MANAGEMENT OF PAIN IN THE HEAD AND NECK"

GILBERT HORRAX, M.D.—Neurosurgeon, New England Deaconess Hospital, New England Baptist Hospital, Department of Neurosurgery, Lahey Clinic, Boston, Mass.

10:30 A.M.—"NON-SURGICAL MANAGEMENT OF PAIN"

JOHN F. SULLIVAN, M.D.—Professor of Neurology, Tufts University School of Medicine; Chief Neurology Service, New England Medical Center, Boston, Mass.

11:30 A.M.—Question and Answer Period

12:30 P.M.—Award Luncheon ..... Oval Room

2:30 P.M.—Board of Trustees Meeting— Copley Room

1957 Annual Meeting Committee

ARTHUR GOLD ..... *General Chairman*

IRVING GLICKMAN ..... *Scientific Program*

ALEX KELTIE ..... *Local Arrangements*

ROBERT DIAMOND ..... *Registration*

MRS. LAWRENCE STAPLES, MRS. ROBERT DIAMOND ..... *Women's Program*

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THE PROSTHODONTIST AND THE TEMPOROMANDIBULAR JOINT SYNDROME*

LOUIS S. BLOCK, D.D.S.

In considering what to cover in this paper it occurred to me that there may be some value to be derived in my reviewing my own work and conducting a self-criticism, comparing my ideas of earlier days with those of today.

Most vivid to me in what I have learned is to stay in my field as a clinician. In my early days of study and treatment of the temporomandibular joint syndrome I felt it imperative that every symptom have a proveable anatomical explanation. I sought these explanations from anatomists, otolaryngologists, orthopedists, physiologists, and from other dentists whose interests were the same as mine. My curiosity continued unabated until it became evident that if trained scientists could not agree on many points certainly I was not qualified to make decisions. I am satisfied, however, with recognizing a few definite conditions which are fairly clear and understandable to me and which I find can be satisfactorily described to the professional man, the student and even the patient.

From the beginning of my work I was aware of the dangers of promiscuous increasing of vertical dimension and had a few unfortunate experiences, when at the time it seemed to be the only possible treatment. In 1939 I reported on one elderly patient, seen first in 1936, whose osseous structure was poor, whose teeth were worn and who was suffering from pain in the temporomandibular joint with every excursion of the mandible. Cast silver splints were cemented, increasing the vertical opening, leaving an adequate freeway space. This quickly relieved the pain. In a few weeks the teeth had intruded, were loose, and the gingival tissue was highly inflamed. The patient's vertical dimension was practically the same as before we started. The pain was gone, and it was some time before I realized why. The cemented lifts or splints were removed and the patient was told to return when she could feel her posterior teeth in contact again. She came back two weeks later, her mouth looking the same as before we started and the pain had returned. At this time a removable appliance was constructed and the patient advised to wear it only a few hours a day, or until her jaws were comfortable. This served satisfactorily and for many years she was pain-free. Approximately ten years after her first visit to me her remaining teeth were extracted. By that time she was old and quite feeble and her cardiologist would not permit proper and necessary surgical preparation of the mouth for complete dentures. Large undercuts and osseous prominences made dentures out of the question, so now, at the age of 95, the patient has been eating baby food for over five years and has made a remarkable adjustment to her condition. She has no pain in her temporomandibular joint nor has she had any for years. Unless I am oversimplifying what some may consider a complex and mysterious problem, this is the answer: Her natural teeth which had worn irregularly and had uneven occlusal contacts were no longer present to force her mandible into an eccentric position or closure. Her muscles, now in a state of tonicity, are not being disturbed by occlusal interference. In 1936 when treatment began, this patient's pain was relieved by opening the bite. When the teeth were intruded and her bite closed again, she still closed evenly on the splints because there were no occlusal prematurities. Today nearly every informed and practiced practitioner would seek out the occlusal prematurities. First attempt to treat the patient by careful occlusal equilibration. This often can be done without increasing vertical dimension. There are some cases where this opening is indicated and unavoidable. In hundreds of cases varying amounts of bite open-

* Presented before the Eleventh Mid-Annual Meeting of the American Academy of Dental Medicine, December 2, 1956 at The New Yorker Hotel, New York City.

ing has brought relief to patients but I am convinced that the relief, in most cases, did not come because of the bite opening. Relief came because in fabricating the corrective appliance, care was used in recording intermaxillary relations and the patient now closed with even or simultaneous contact in centric relation and there were no cuspal interferences in lateral relation.

In 1933, when I made my first approach to this study, I was directed to Dr. Theodore Maves of Cleveland as he had made earlier reports in the literature. He impressed upon me that when there is pain in a temporomandibular joint there must be inflammation, degenerative changes, or some damage in the structures involved; and while this pain exists there is little likelihood of observing normal mandibular movement or registering proper intermaxillary relations. The years have taught me that imbalanced muscular tensions can also result from psychological factors which cause the patient to clench the teeth or grind the teeth and perpetuate or aggravate an occlusal abnormality. Regardless of the cause of the tensions, we are able to relieve them and in most cases muscle tonus can be restored. Then, and only then can the mandibular positions we are seeking be located. I should like to quote from a paper I read before the American Denture Society in 1953 and which appeared in The Journal of Prosthetic Dentistry of March 1954.[1]

> "I would welcome a physiologist on this platform for, with apologies to all who may be offended, I question how many dentists know the physiologic needs of the patient or the physiologic limits within which boundaries we must remain to restore and maintain health. I am certain I do not. In my opinion, there can be no set or definite rules in applying a technique unless they can be modified by clinical study and experience. To illustrate: Here is a patient with a painful, arthritic temporomandibular joint, with existing inflammatory and degenerative processes, and who cannot demonstrate normal mandibular movement. There are many satisfactory methods of treating this patient, all respecting the abnormality and treating that problem first. The one certain technique not to be followed would be to attempt to construct dentures, using arrow-point tracings or soft wax cheek-bites in a conventional manner, without first giving attention to the pathosis. Abnormal muscular tensions resulting from malposition and pain, trismus, cramps, or whatever we choose to call it, make normal mandibular movement and jaw relations practically impossible. Every dentist who treats this type of patient has his pet technique, and I have no quarrels with any, provided the procedure is logical and produces satisfactory results. For years I have treated these arthritic patients and all patients who are included in the group of referred neuralgias resulting from malocclusion with a basic philosophy.

PHILOSOPHY OF TREATMENT

Muscular imbalance may result from any of the following causes (and I have omitted some):

1. Uneven occlusal contacts which force the jaw into an eccentric relationship, sometimes called a "habit bite."

2. Emotional factors which lead to clenching of teeth, and sometimes bruxism, with abnormal, and maybe uneven wear on occlusal surfaces.

3. Arthritic changes within the joint, either local or coinciding with systemic conditions. This may be characterized by erosion of joint surfaces, by deposits within the joint, or simply by an inflammatory condition within the joint.

4. Traumatic. The case where the mallet and chisel in exodontia have been used with excessive damage to some of the attachments of ligaments.

Regardless of the cause of the pain or tension, our first step must be to relieve this pain. It is only when the patient is pain-free that we can hope to record and restore normal jaw movement. Fortunately, this objective can be reached in a high percentage of patients without too much difficulty. Once this pain is relieved, it will then be relatively easy to locate and register centric relation. The treatment for pain will vary with its severity, but usually relief can be noted within a few days by prescribing:

1. Wet hot packs to the mandible and maxilla for fifteen minutes three times daily.

2. A soft diet, giving the joints and associated structures as much rest as possible.

3. Anodynes according to the specific needs of the patient.

4. Sedation to assist in relaxing the patient.

5. In extreme cases, injection of Hydrocortone into the glenoid fossa. This is new, but many successful results have been reported.

At this point in our treatment, we still have a patient with an occlusal disharmony, but one who can be studied, diagnosed, and treated with more accuracy and less discomfort. If the patient is wearing dentures and the errors are not too extreme, new registrations can be made and the dentures transferred to the articulator for study and correction. It may be found that new dentures are advisable, but with a relatively pain-free and relaxed patient, the likelihood of erroneous eccentric registrations is diminished.

For the dentulous patient, the study casts should be carefully mounted from checkbites and transferred to an articulator with a face-bow. This will serve to demonstrate the points of occlusal interference, and to show premature contacts clearly, as well as the direction and extent to which the mandible is being forced into an eccentric jaw relation by the occlusion.

Temporomandibular joint roentgenograms are usually made at this time, in both the open and closed jaw position. The roentgenograms made with the mouth propped open (usually with three or four $\frac{1}{8}$ inch cork discs between the teeth on both sides) give us an opportunity to study the joint surfaces for erosion or calcific deposits. It will also show if there have been degenerative changes within the joint. If, in the open position, one condyle has advanced far more than the other, we can assume that some changes, either within the joint or in the musculature, have taken place. The views with the teeth in contact give us the position to which the condyles are guided by a faulty occlusion or uneven muscle tensions. This frequently determines whether corrective treatment will be unilateral or bilateral.

From the study thus far, we should be able to locate the cause of the uneven muscular tensions, and by locating the correct centric relation, we should know what must be done to restore the proper vertical dimension and centric occlusion. With restoration of normal occlusal function in practically every patient these temporomandibular joint disturbances coming within our field will be satisfactorily relieved. To achieve satisfactory occlusal function, there must be no interference in any lateral or protrusive movements."

Currently, one of the more useful diagnostic aids has been the use of the rapid curing resins. In former years metal castings were used exclusively for diagnosis and to test the patient's tolerance to restoring lost vertical dimension. Careful diagnosis frequently discloses that proper occlusal equilibration can be adequately accomplished by removal of occlusal prematurities in centric relation and removal of cuspal interference in eccentric movements. Many cases require restoration of lost posterior support. This is always determined by use of a trial prosthesis before permanent work is done. The rapid curing resin can be quickly molded over natural teeth or over denture teeth and a trial occlusion developed at the same sitting. At a subsequent visit more material can be added if desired or adjusting done with very little difficulty.

Dr. Victor Sears has called our attention to what he calls mandibular migration.[2] He has constructed a "condyle migration recorder" with which he strives to demonstrate graphically the distance as well as the direction the mandibular condyles shift in malocclusion or temporomandibular joint cases. When he finds a condyle has shifted or migrated upward, he treats the patient by what he terms "pivoting" or creating a premature contact approximately midway between the condyles and the incisors, usually in the first molar region. The purpose of this is to bring the condyles downward as the incisors are brought into occlusion.

I believe this to be a satisfactory approach when roentgenographic proof is at hand that such treatment is indicated. Patients who have been wearing dentures for many years, with loss of molar support, may fall into this category as may the patients who have gone without posterior teeth for considerable time.

My first experience with treating this type of

patient was in 1938. A patient presented with pain in the temporomandibular joints, stopped, stuffy sensations in both ears, and frequent spells of vertigo. Complete relief came so rapidly that at the time it was hard to believe. Treatment was arbitrary. Cast silver splints were cemented over the lower posterior teeth to occlude with a rigid partial upper denture where first molars were approximately two millimeters in supra-occlusion.

A modification of this thinking brings us to treatment of the unilateral case, in which the patient has symptoms on one side only. After diagnosis, it is determined that all occlusal errors are on that particular side. This patient must be treated unilaterally, not bilaterally, and here again is where the rapid curing resin is found to be useful. A pivot type splint is made to build up the deficient side. When the teeth are closed to this splint the teeth on the opposite side will not be in occlusion. The patient is seen in 3 to 5 days. If at this time the teeth on the untreated side are not in occlusion, a little grinding on the acrylic splint will bring them into contact. This type case usually responds rapidly and with good results. If the unilateral case is treated bilaterally, the abnormal side may be restored to an acceptable position but the condyle on the opposite side would be stabilized by the splint in an abnormal position.

It is difficult to distinguish between problems the prosthodontist finds and those seen by the general practitioner. Temporomandibular joint syndrome cases have been referred to me for over 23 years now and I can say that treatment of this syndrome will be the same in the mouth with a natural dentition as in the edentulous mouth. The philosophy of treatment must be the same. The only difference will be in the techniques used to accomplish the treatment.

Patients wearing complete dentures with faulty occlusion are not as likely to suffer from the temporomandibular joint syndrome as are patients with any remaining natural teeth. With natural teeth opposing, if there is occlusal prematurity the muscles may start the mandible in what should be a correct closure but the premature contact changes the path into an eccentric slip, or glide. Repetition of this improper hitting and shifting may bring about one or more of three pathological changes. First, it may cause one or more teeth to wear, creating facets or grooves which can be easily evidenced. Second, it may cause a breakdown of the supporting structures under and around one or more teeth. Third, if the teeth are in unusually dense bone and do not wear sufficiently or quickly, the abnormal eccentric load will have to be carried by the temporomandibular joint. Sometimes the teeth, the supporting structures and the joint all suffer. Only one, or two of the three areas are involved. With similar prematurities in the edentulous mouth where there are artificial replacements, more often than not the dentures will slip, and this shifting on the bases will compensate for the occlusal error thereby protecting the temporomandibular joint. The dentures are not seated firmly enough to resist muscular forces and will be moved from their bases. They may even interdigitate while several millimeters off their ridges, but the dentures will hold the mandible reasonably solid, possibly in a position close to centric relation and will not cause a rocking or displacement of the condyles within their fossae. This is not always the case and we do have many complete denture wearers suffering from the temporomandibular joint syndrome. They usually are found in the group where alveolar resorption has caused a loss of posterior support.

Occasionally I have been called on to diagnose temporomandibular joint problems in denture-wearing patients and have found the vertical opening to be too great. The osseous support apparently was good, there being no sign of rapid resorption which might have compensated and prevented temporomandibular joint pain.

Recently I saw a patient suffering acutely and hardly able to move her mandible. Her new dentures which were less than a month old fit well, covered the denture bearing area properly and allowed the patient to close in what unquestionably was the proper centric relationship. The heels of the denture had not been trimmed sufficiently after processing and the patient could not move into protrusive, or into any free-moving, unrestricted lateral excursions. The

patient had suffered undescribably for more than two weeks. She had been wearing dentures for 25 years with no joint disturbance and was naturally greatly upset over these severe and unexplainable symptoms. So was the dentist. Ten minutes spent at the lathe in trimming and polishing was all the treatment necessary to bring complete relief to the patient.

The alert prosthodontist takes a complete history and makes a thorough examination of every patient. This certainly will include a search for symptoms of the temporomandibular syndrome. These symptoms are too well known to enumerate here but I feel that it is incumbent upon every dentist regardless of his type of practice, to understand the problem, and to be able to recognize and diagnose the temporomandibular joint syndrome.

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BIBLIOGRAPHY

1. Block, Louis S.: Tensions and intermaxillary relations, Journal of Prosthetic Dentistry. 4:204, March 1954.
2. Sears, Victor H.: Mandibular Condyle Migrations as Influenced by Tooth Occlusions, J.A.D.A. 45:179-192, 1952.

LE PROSTHODONTISTA E LE SYNDROME DEL ARTICULATION TEMPOROMANDIBULAR

Dr. chir. dent. Louis S. Block

SUMMARIO IN INTERLINGUA

Le syndrome del articulation temporomandibular sole resultar de dysharmonias occlusal que in lor torno perturba le normal function e tono muscular. Le syndrome pote etiam resultar de modificationes arthritic intra le articulation o localmente o in coincidentia con statos systemic. Illo pote provenir de factores emotional, de molestia physic o mental que conduce a serramento del dentes e eventual bruxismo. Le dolor es usual, e in iste caso le patiente quasi nunquam exhibi normal mobilitate mandibular. Dunque, ante que se pone le diagnose de dysharmonias occlusal, le patiente debe esser exempte de dolor e capace de movimento normal del mandibula, de maniera que le practicante pote localisar le prematuritates e determinar juste relationes maxillo-mandibular.

Si le patiente es edentule o dentule, le philosphia e le principios basic de occlusion es le mesme. Le technicas pote variar un pauc, ma le mesme fin se perseque in ambe situationes.

Le prosthodontista vigilante prendera le anamnese complete e face un examination minutiose de cata patiente. Isto certemente va includer le recerca de symptomas del syndrome temporomandibular, symptomas troppo ben cognoscite pro hic enumerar; sed me sembla que incumbe in cata denstista, sin distinction inter typos de practica, comprender le problema e saper recognoscer e diagnosticar le syndrome del articulation temporomandibular.

Case Reports

A TECHNIQUE FOR ROOT RESECTION OF PERIODONTALLY HOPELESS TEETH INCLUDED IN MULTIPLE SPLINT BRIDGES

ALLAN N. ARVINS, D.D.S., F.A.C.D., F.A.D.M.*

With the evolution of multiple splinting of teeth as a routine procedure, many complicating factors entered the picture of oral diagnosis. If it were advantageous to join large numbers of teeth into a single fixed unit, the disadvantage of having a single included abutment fail and jeopardize the entire case was always present. This alone was enough to deter the dentist from utilizing one of the best methods available for stabilizing mobile teeth, an aid in the control of alveoloclasia. Removable appliances were the choice because of the ease of correction by simply adding a tooth when required, with a minimum of expense and discomfort.

As experienced a diagnostician as one may be, there will always be intangibles precluding absolute accuracy in prognosticating the life expectancy of any given tooth.[1] However, since he is expected to make such predictions on the basis of his special knowledge and experience, it would be well if possible errors in judgment of borderline problems were not irremediable but rather anticipated and properly planned for.

Until relatively recently, hopeless involvement of an included splinted abutment meant removal of the restoration *in toto*. This usually meant destruction of some or all other crowns involved with additional expense, discomfort, and loss of time.

Some years ago a technique was described[2] whereby the root of such an affected tooth could be surgically removed at the cemento-enamel junction and the crown left in position to act as a pontic. This approach served admirably to prevent the destruction of extensive cases presently under discussion. An objection to this procedure, particularly in the anterior region, was the unesthetic result obtained due to recession of the soft tissue following root removal, leaving considerable space between the tooth and healed ridge, and the concomitant difficulty in keeping this area free of debris.

The purpose of this paper is to present an

Fig. 1. Case I. (Left to right) Upper left canine before treatment, pulp extirpated and filled, root resected, completed case one year later. The root stump was left somewhat long because of gingival recession. (See Fig. 2.)

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Fig. 2. Case I. Clinical appearance of completed case.

extension of this technique modifying and improving the surgical approach to eliminate its objectionable features. Specifically a root stump will remain partially embedded in a soft tissue depression and the clinical appearance will remain unchanged.

INDICATIONS

In instances where an abutment tooth in a multiple splint or splint-bridge case becomes hopelessly involved due to loss of alveolar support subsequent to completion of that case, and there are an adequate number of other abutments to support the restoration, this method is of value.

TECHNIQUE

The pulp of such a tooth is first extirpated and filled. Filling the root canal eliminates organic material from the pulp chamber, subsequent putrefaction, and prevents seepage at the apical end of the root stump.

Following endodontia a vertical incision is made over the center of the root from the gingival margin to the apical region. The lips of the incision are undermined and separated with a periosteal elevator so that the root is exposed. The root is then cut horizontally with a cross cut fissure or surgical bur about 3mm. above the level of the existing gingival margin. The root portion is easily dislodged and removed with a thumb forceps. The stump remaining is then smoothed with small cylindrical or tapered stones, followed by sandpaper strips "shoeshined" labially and lingually. The area is flushed of all debris, medicated, and the incision sutured back into place.

Postoperatively the clinical appearance is no different from a tooth with a root of normal length. The gingiva heals around the stump covering the sectioned portion. The alveolus fills in to a satisfactory level, often improving the condition of the adjacent teeth in so doing.

CASE I

Such a problem was so managed in a case where the involved tooth contained an attach-

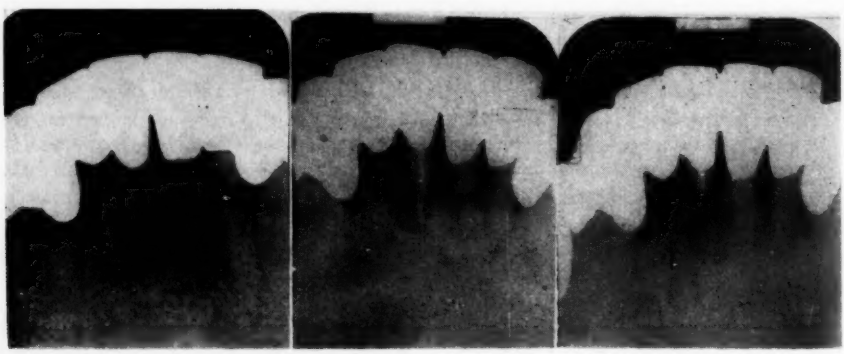

Fig. 3. Case II. (Left to right) Lower left central incisor before treatment with almost total loss of alveolar support, pulp extirpated and filled, postoperative appearance two years after root resection. Note healed bone.

Fig. 4. Case II. Clinical appearance of completed case.

ment and its loss would probably have necessitated a full denture. The patient, a male, 60 years of age, wore an attachment partial denture replacing all maxillary teeth except the six anteriors. These were splinted with full crown veneers with attachments in the canines. Bruxism was uncontrollable in this patient, with continuing bone loss, especially in the left canine area. Eventually complete loss of support was evident roentgenographically, with accompanying periodontal abscess formation. (Fig. 1)

The abscess was treated by curettage and drainage; when acute symptoms had subsided, the above described operation was performed.

CASE II

Another case similarly treated involved a lower left central incisor, (Fig. 2), an included tooth in a lower anterior splint. Patient, male, 54 years of age. Treatment was instituted as in Case I and requires no additional description.

Both of these patients have been free of discomfort and disease in the operated areas for over two years and roentgenographic examination gives evidence of good filling-in of the ridge bone.

CONCLUSION

The cases described are two of many so treated. In all instances the results were similar with the acute problem satisfactorily terminated. With this technique, easily performed, costly correction of hopelessly involved teeth included in multiple splint-bridges can be avoided and esthetics maintained.

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BIBLIOGRAPHY

1. Miller, Samuel C.; Textbook of Periodontia, Ed. 3, Blakiston Division, McGraw Hill Book Company, New York, 1950, pp. 204-215.
2. Sorrin, Sidney; Bridgework and Periodontal Treatment: Report of a Case, J.A.D.A., 37: 607, Nov. 1948.

AN INTERESTING CASE OF A BIFURCATION INVOLVEMENT AND DEVITALIZED TOOTH

SIDNEY SORRIN, D.D.S., F.A.C.D., F.A.D.M., F.A.A.A.S.*

In November 1948, an article appeared in The Journal of The American Dental Association by the writer, reporting on a case in which one of the bridge abutment teeth became involved and required removal. This was done without removing the bridge.

In this article, another type of case is reported in which a lower molar abutment tooth presented a bifurcation and a rarefied area at the distal root. However, this tooth was treated in such manner that it still was employed as an abutment.

Figure 1 shows a case of a bifurcation involvement of the lower right first molar tooth which blew up. The pulp became devitalized with an area developing on the distal root. The bridge was removed and the mesial root filled (Figs. 2 and 3). The distal root was extracted (Fig. 4), thus eliminating the bifurcation and the area at the apex. A new bridge was constructed (Fig. 5) utilizing the first premolar, first molar mesial root and third molar teeth as abutments.

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Fig. 1 Fig. 2

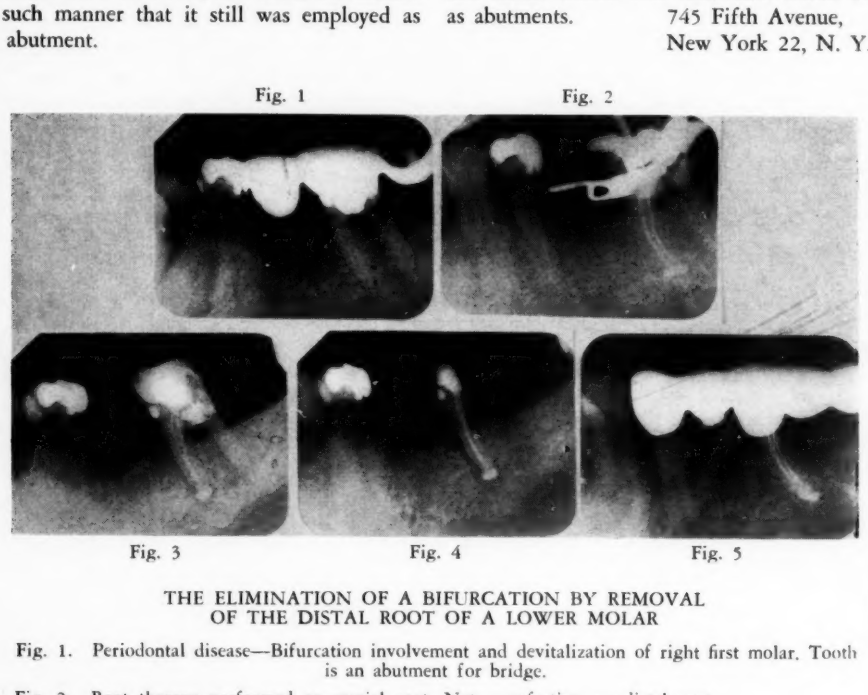

Fig. 3 Fig. 4 Fig. 5

THE ELIMINATION OF A BIFURCATION BY REMOVAL OF THE DISTAL ROOT OF A LOWER MOLAR

Fig. 1. Periodontal disease—Bifurcation involvement and devitalization of right first molar. Tooth is an abutment for bridge.

Fig. 2. Root therapy performed on mesial root. Note rarefaction on distal root.

Fig. 3. Another view showing rarefaction about distal root and completed root therapy on the mesial root.

Fig. 4. Distal root removed.

Fig. 5. The mesial root serves as an abutment for bridge. (Courtesy of Dr. Mitchell Rosenson. New York, N. Y.)

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Medical Views on Oral Problems

CYTOLOGY OF THE ORAL CAVITY*

Peters and Rijsinghani (J. *Indian M. A.* 27:231, 1956) report the results of smears from the oral cavity of 595 patients with different diseases of the mouth. Smears taken from an area that harbors a cancer are usually rich in cells. In this group, 194 patients had oral carcinoma. The diagnosis was verified histologically unless it was far advanced. Biopsy specimens were obtained from 185 patients of whom 162 showed cancer on histological examination. Smears were taken from all patients. One hundred fifty-four showed malignant cells; 8 failed to show malignant cells, although a carcinoma was present; and 32 showed cells probably but not postively identified as carcinomatous. Of those patients with diseases other than carcinoma, 15 had leukoplakia, 19 had submucous fibrosis, 2 had rhinoscleroma, and the rest had such disorders as infections, ulcers, and vitamin deficiencies. In two patients, cancer was first discovered by smear, the lesions having been considered ulcerative stomatitis and hypertrophy of the tonsil respectively. A biopsy specimen in these cases revealed carcinoma. Cells desquamated by oral cancer are sufficiently characteristic to be recognized in the smear.

* Foreign Letters, J.A.M.A., Dec. 29, 1956, p. 1647.

HIGH BLOOD CHOLESTEROL LEVEL*

To the Editor:—*A 34-eyar-old woman has had a high blood cholesterol level since October, 1954. Her blood cholesterol level was 411 mg. per 100 cc. in November, 1954. She was put on a rigid diet, and, in December, 1954, the cholesterol level dropped to 387 mg. per 100 cc.; on March 23, 1955, it was 360 mg. per 100 cc. She has been checked every month since that time, and the lowest it has been is 340 mg. per 100 cc. The patient has been treated with Monichol since October, 1955, but the cholesterol level remains high. Could you offer any suggestions for treatment?*

Leland F. Zatopek, M.D., La Grange, Texas.

Answer.—The response of the blood cholesterol level in the patient described to a rigid low-cholesterol diet is about what can be expected in the average patient. This relatively small drop in blood level is due to the fact that cholesterol can be synthesized by the body from simple foodstuffs; therefore, the dietary cholesterol is only a minor factor in the serum level. In addition to diet, thyroid may be effective in lowering the cholesterol level, particularly if some degree of hypothyroidism is present. No other established and satisfactory methods are at present available.

* Queries and Minor Notes, J.A.M.A., Sept. 1, 1956, p. 82.

LESIONS AFTER ORAL USE OF ANTIBIOTICS*

To the Editor:—*About 12 years ago a patient used antibiotic pastilles orally for a protracted period of time. Ever since then he has had gingival discomfort and recurrent lesions. Could the local use of the antibiotic be the cause of the difficulty?*

M.D., Ohio.

Answer.—There is little question that the oral use of antibiotic pastilles may be responsible for the development of lesions in the gingival and oral mucous membranes as the result of direct irritation or allergy. Although it is stated in the query that the drug was used "over a protracted period of time," it is not clear whether it has been used periodically over the past 12 years or whether use was discontinued 5 or more years ago. If it has not been used for several years, it would be difficult to associate the gingival lesions with the antibotic. If, on the other hand, the patient has employed the antibiotic periodically up to the present time, the oral lesions are probably due to its use. The best treatment is to stop the application of antibiotic.

* Queries and Minor Notes, J.A.M.A., Feb. 16, 1957, p. 607.

DRYNESS OF MOUTH*

To the Editors—*An emotionally stable insurance salesman, aged 47, complained of a drawing effect in his mouth, such as the effect produced by putting a persimmon in the mouth. He has no other complaint. Examination revealed a mild irritation of the mucous membrane of the nose, but the mouth and the entire oral cavity did not reveal any pathological condition. He was treated locally for one week, with no improvement. He was then given 0.1 cc. of Hollister-Stiers mixed respiratory vaccine. Three weeks later he stated that he believed the shot helped but that his mouth was still drawing, though not burning. The tongue is dry,*

* Queries and Minor Notes, J.A.M.A., Feb. 16, 1957, p. 605.

and the mouth feels wrinkled like a dried-up peach. Finger examination of the buccal mucous membrane three weeks after onset revealed it to be soft with no ulcerations or tumor masses. He is not anemic. Blood pressure is 140/68 mm. Hg. Please advise me concerning diagnosis and treatment of his condition.

M.D., Ohio.

This inquiry was referred to two consultants, whose respective replies follow.—ED.

ANSWER.—Sensations such as those described in this patient sometimes occur in connection with dental work. Prosthetic appliances and current-producing fillings such as gold and amalgam may be causative. Some metabolic disorders such as uremia or diabetes may also produce abnormal sensations. These feelings are fairly common in the menopause. After ruling out the above named factors, I would conclude that this is likely an organ fixation factor. Treatment would consist of reassurance and whatever else could be done in the way of changing the sensation. Sometimes chewing gum for a short period will change the sensorium, although constant chewing may tend to aggravate it. Small doses of a sedative such as phenobarbital might be worth trying.

ANSWER.—The clinical complaint of dryness of the mouth is frequently associated with the complaint of metallic taste or the feeling following the use of astringents. This group of clinical symptoms has never been definitely associated with known pathological causes. Several things might be contributory to the sensation, such as decreased output of the salivary glands or the glands of the upper respiratory tract. It is suggested that attention be given to the need for increased fluid intake and that careful examination be made to see that the nasal air passages are not unduly dry.

BELL'S PALSY*

TO THE EDITOR:—*Has the cause of Bell's palsy been determined? Is there any proof that exposure to cold drafts and inclement cold weather play a part in the etiology? Is there any statistical information as to the incidence of Bell's palsy in temperate and cold climates versus the incidence in hot climates?*

Townsend W. Baer, M.D., Pittsburgh.

ANSWER.—The term Bell's palsy is often used as a synonym for the lower motor neuron variety of facial paralysis, but the term should be used only if the paralysis is the result of a lesion peripheral to the geniculate ganglion. Peripheral facial paralysis, including the type usually referred to as Bell's palsy, may be due to a number of different causes, and it is not possible to state that any single cause has been determined. The current concepts of etiology include edema or periostitis of the facial canal, ischemia of the nerve, a parenchymatous neuritis, and infection by a neurotropic virus. On decompression of the facial canal in cases of Bell's palsy, the nerve has been found to be either enlarged or edematous. Consequently, most observers believe that edema, periostitis, and/or ischemia of the nerve are the most important factors in the majority of cases and that any or all of these may cause a physiological or even anatomic block of the nerve.

Because there is sometimes a history of exposure to the wind or cold on the involved side of the face, either such exposure alone or low temperature has been cited as a cause of the paralysis. There is, however, no factual proof that exposure to cold drafts and inclement cold weather are actual causes, although one can postulate that they may be precipitants, if either infection, edema, or ischemia is the underlying cause. No statistical reports of the incidence of Bell's palsy in temperate and cold climates versus that in hot climates are available, but most of the reports on large series of cases do come from the northern parts of the United States and of Europe. Three such recent studies from England, which might indicate the frequency of the condition there, are by James and Russell (*Lancet 2*:519, 1951), Taverner, (*Brain 87*:209, 1955) and Wyburn-Mason (*Brit. M. J. 2*:679, 1954).

* Queries and Minor Notes, J.A.M.A., Oct. 13, 1956, p. 697.

LOSS OF TASTE*

TO THE EDITOR:—*An 82-year-old man had his last four upper teeth extracted. A removable horseshoe-shaped plate had been attached to these teeth by clasps. The new plate covers the entire roof of his mouth and stays in place perfectly, but practically all his sense of taste is gone. Can another kind of plate be used to recover the taste buds that this one has eliminated?*

M.D., Florida.

ANSWER.—The number of actively functioning taste buds gradually diminishes from several hundred to about 70 or 80 in elderly persons. If a solid material is placed in a perfectly dry mouth it cannot be tasted. Under ordinary circumstances, unless it is in solution it does not affect the sense of taste. Although the taste buds are located chiefly in the tongue, they are also found in the mucous membranes of the soft palate. A dental plate covering the entire roof of the mouth will often affect the sense of taste in varying degrees. It would be advisable to discuss the matter of a new dental plate with the dentist, who may be able to provide a restoration that will not completely diminish the taste sense.

* Queries and Minor Notes, J.A.M.A., Jan. 26, 1957, p. 327.

USE OF DENTURE POWDER*

TO THE EDITORS—*Could there be chronic systemic poisoning from a denture powder containing sterculia gum, alkalized with sodium borate, particularly in relation to liver and kidney damage? Is there any evidence that such a preparation might be carcinogenic in relation to the liver and pancreas?*

J. M. Lichty, M.D., San Diego, Calif.

ANSWER.—The occasional cancer related to artificial dentures usually is attributed to mechanical rather than chemical action. The presently employed plastics in dentures are not regarded as carcinogenic. Sterculia gum closely resembles tragacanth. The latter enters so many comestibles that its lack of damaging properties has been established through wide use. Notwithstanding, tragacanth is a recognized sensitizer and thus is responsible for some food allergies. It is presumed that this is true for the kindred substance sterculia gum. Sodium borate, likewise, has been introduced into so many products for human use that its relative harmlessness is well established. When the quantity daily entering the digestive tract is less than 0.5 gm., no damage is expected. The action of a much larger intake such as 3 gm. is likely to be limited to minor digestive affronts, unless continued for long periods. The proper use of a denture adhesive containing sodium borate may not lead to other than trifling and innocuous exposure.

* Queries and Minor Notes, J.A.M.A., Sept. 8, 1956, p. 152.

CONTACT DERMATITIS DUE TO CHLORPROMAZINE IN A DENTIST*

TO THE EEDITOR:—*Lewis and Sawicky (J. A. M. A. 157:909 [March 12] 1955)* in a report on two cases of contact dermatitis due to chlorpromazine (Thorazine) in nurses handling it advise that because of its extensive use, the danger of sensitization on frequent or long-continued contact must be kept in mind by both physicians and nurses. Our patient, a dentist working with psychotic patients at a state institution, developed a dermatitis of the fingers that contacted the saliva of patients who had been and were under treatment with daily doses of chlorpromazine as high as 1,000 mg.

The patient was first seen July 27, 1955. Five days previously she had noticed a patch of dermatitis on the right hand. Within the next few days she had an erythematous, exudative, crusted eruption of the dorsal terminal phalanges of the second, third, and fourth digits of both hands, more severe on the left. The palmar aspects were not involved. She had been treating the teeth of mental patients who had been receiving massive doses of chlorpromazine. Undoubtedly the drug excreted in saliva and present in traces in those patients treated with it orally sensitized her. A patch test with an aqueous solution of chlorpromazine caused itching within five hours, and an area of erythema and edema appeared and persisted at the test site for several days. Her hands responded to appropriate therapy with Grenz radiation in 10 days. She was able to return to work using a protective silicone cream (Kerodex 76).

According to Lewis and Sawicky, as reported by the pharmaceutical firm manufacturing Thorazine, patch testing of 50 individuals showed no irritation or sensitivity. However, in the testing, daily and prolonged exposure to it as in this case, and in nurses and physicians, was not considered. With the increasing use of chlorpromazine, individuals constantly handling it or coming in contact with drug-laden secretions of patients under chlorpromazine therapy should be aware of the possibility of epidermal sensitization and institute means to prevent or minimize contact with it.

FRANK C. COMBES, M.D. and MILTON REISCH, M.D.
104 E. 40th St., New York 16, N. Y.

* Correspondence, J.A.M.A., Oct. 22, 1955, p. 807.

EXPOSURE OF CHILDREN TO TUBERCULOUS GRANDMOTHER*

TO THE EDITOR:—*A family with five children, aged 4 to 12 years, would like to visit a grandmother who has a positive sputum for tubercle bacilli but has never shown any x-ray evidence of pulmonary disease in a period of two years. What about use of the BCG vaccine? And if so, when would it be considered safe to visit?*

M.D., Georgia.

ANSWER.—It is assumed that the pathogenicity of the grandmother's tubercle bacilli has been determined. It is not too unusual for tubercle bacilli to be recovered from the sputum of a person whose x-ray films of the chest are clear. If the grandmother's general health justifies complete examination, it would be well to locate the source of her tubercle bacilli. They may be coming from a small focus such as a lymph node that has eroded through the walls of the bronchus so as to discharge tubercle bacilli into its lumen. If the focus is found, it might be one that would lend itself to extirpation or some other form of treatment that would render her sputum negative. Unless the grandmother's sputum can be rendered free from tubercle bacilli, it is not safe for the five children to be brought in contact with her, unless rigid contagious disease technique is employed. This would best be instituted by a nurse well trained in such technique. Many so-called immunizing agents have been produced and employed since 1883. Each one has been highly controversial with reference to efficacy, and some have been definitely harmful. BCG is only one of a half-dozen so-called immunizing agents currently employed for

this purpose in various parts of the world. None has passed the experimental stage. Not only is there no incontrovertible proof of efficacy of BCG, but there is definite evidence of its harmfulness. Abscesses and ulcers at the site of administration and clinical disease of the regional lymph notes occur with considerable frequency following its administration. Various other clinical lesions, including lupus vulgaris, have ben caused by BCG. It has also resulted in death of several persons. Inasmuch as an attack of tuberculosis, mild or severe, does not result in dependable immunity, there is no premise for producing immunity artificially. BCG does not prevent infections with tubercle bacilli from current tuberculous patients.

* Queries and Minor Notes, J.A.M.A., June 30, 1956, p. 926.

FORM OF IRON ABSORBED BY MAN*

TO THE EDITOR:—*In a dispensary in Paraguay there are many poor people who are very much in need of iron. Iron ammonium citrate, reduced iron, and ferrous oxalate can be bought, all at about the same price per kilogram. The citrate can be put in wine, which does not cost much; the reduced iron has to be put in capsules that cost more than the iron itself; and the oxalate can be taken as is, which makes it easier to use. What is the comparative absorbability of these iron drugs, especially the ferrous oxalate? The latter rarely is even mentioned as a medicament for the treatment of anemia, whereas it is very popular here in South America.*

John R. Schmidt, M.D., Asuncion, Paraguay.

ANSWER.—Work with radioactive iron in recent years has supplied convincing evidence, that though the dog and rat may assimilate both ferric and ferrous iron, man can absorb the element only in the ferrous form. This does not mean that ferric iron is not assimilable by man but only that it must be converted first in the intestinal tract to the ferrous form in which it is taken up. This conversion is favored by the acidity of the stomach, which at the same time retards the formation of non-dissociable complexes with nucleic and amino acids and phosphorus compounds. Therefore, the ideal situation with regard to oral administration of iron is to give a ferrous iron compound to an individual with ample gastric juice of high acidity. Of the three iron preparations mentioned, the ferrous oxalate is therefore the one to be theoretically preferred; however, nothing much is known of the medicinal use of this compound, which is employed in North America only as a photographic developer of silver-bromide-gelatin plates. Its commercial availability in bulk for that purpose probably accounts for its relative cheapness. That ferrous oxalate is popular for treatment of anemia in South America is surprising in view of the potential toxicity of all oxalates. Even though acute oxalate poisoning might not be associated with the use of an oxalate in relatively small amounts, the blocking of renal tubules with oxalate crystals may certainly be anticipated in some individuals treated with the compound for a prolonged period, since oxalates are not burned in the body but are combined with calcium to cause hypocalcemia and oxaluria.

* Queries and Minor Notes, J.A.M.A., June 30, 1956, p. 928.

ORAL MANIFESTATIONS OF HEMATOLOGIC DISEASE*

By W. W. Dalitsch. Am. J. Surg. 92-817-824 (Dec.) 1956 [New York].

Pinpoint-sized to match-head-sized petechiae on the tongue, the mucosa of the floor of the mouth, the palate, lips, and pharynx suggest purpura, either the thrombocytopenic idiopathic type or a secondary variety in conjunction with leukemia, aplastic anemia, or scurvy. In leukemia and aplastic anemia the mucous membranes may show infiltrations and ulcers. Continuous oozing from the gums may be a sign of hemophilia, but it may also be an early symptom of acute leukemia or a latter development in the course of other blood disorders, including chronic leukemia, Hodgkin's disease, and aplastic anemia. The tongue is the site of characteristic changes in the anemias. It may appear swollen and red and feel sore early in the course of pernicious anemia; later the mucosa and papillae atrophy and, then the tongue has a pale, shiny, smooth, glistening appearance; it is seldom coated. Furring of the tongue with concurrent anemia is suggestive of gastric carcinoma. The "beefy" red tongue of chronic hypochromic microcytic anemia is observed in connection with iron deficiencies, avitaminoses, pellagra, and sprue. Often this glossitis is painful and is associated with an angular cheilitis or perlèche and also with recurrent aphthous ulcers or canker sores within the mouth.

These aphthous ulcers are usually clean with a sharp margin, and have a halo of redness due to inflammatory reaction. The necrotic types of ulcerations found in the mouth and pharynx in patients with severe neutropenia or agranulocytosis, however, are irregular and sloughing in appearance; they are covered with a dirty, greyish-white membrane; and there is no inflammatory reaction surrounding such lesions. Bacterial growth is prolific; the tissue cell undergo necrosis, and a foul odor is present. Aplastic anemia, aleukemic leukemia, infectious mononucleosis, damage to bone marrow from radiation, and arsenic and benzoyl poisoning sometimes produce similar lesions. Extensive infiltration of masses of leukemoid cells into the oral mucosa and submucosa is observed in the monocytic type of leukemia. Enlargement of the

* Medical Literature Abstracts, J.A.M.A., Feb. 16, 1957, p. 584.

tonsils is seen in lymphatic leukemia. Enlarged lymph nodes in the neck or about the face and jaws are often an early sign of Hodgkin's disease. Epistaxis may be the first symptom of glandular fever, and the cervical lymph nodes are enlarged and tender in this disorder. Changes of the bone structures of the face and jaws may be detected as part of the picture of a blood dyscrasia. Thorough blood and bone marrow studies correlated with the history and clinical findings are essential for a correct diagnosis and proper treatment. Surgeons, internists, dentists, and otolaryngologists should be aware of the close relationship between signs of oral disease and hematological disorders.

TRANSFUSION WITH BLOOD OF MALARIAL DONORS*

TO THE EDITOR:—*There is some discussion in the California blood bank system about letting down the bars somewhat regarding the use of blood of a person who has had malaria without a recurrence in two years. Our bank does not use such blood for replacement, only for plasma. It is my belief that any restrictions thus far placed on reputed malarial risks are based on clinical experience; e.g., recurrence after many years, without reinfection. I also feel that any contemplated relaxation in these restrictions is likewise based only on clinical experience. I do not consider this evidence sufficient to make a change in our program of excluding these risks for replacement.*

M.D., California.

ANSWER.—There is a small risk of transmission of malaria by blood transfusion. Methods are not available to laboratories to estimate the possibility of the transmission of this disease. Instances of malaria following blood transfusion from donors who have had malaria more than 30 years previously have been reported. In one experience the donor himself was not known to have ever had clinical symptoms of the disease. In this latter case the transfused infection was due to Plasmodium malariae. It is recommended (Technical Methods and procedures of the American Association of Blood Banks, Minneapolis, Burgess Publishing Co., 1953) that individuals who have a history of malaria not be accepted as donors except for blood to be processed to plasma. Individuals living in malarious areas who have taken suppressive therapy may be accepted as blood donors provided that two years have elapsed since discontinuance of suppressive therapy. It is recognized that emergency situations and certain local conditions might require relaxing these requirements at the discretion of the physician. Individuals who have had malaria in the past or individuals living in malarious areas may be accepted as blood donors provided the risk is known to the physician. Should transmission of malaria occur, prompt antimalarial treatment can be given the patient. It would be reasonable to suppose that the number of individuals who might give a history of malaria in the state of California would be relatively small and that there would be little need to relax the standards presently in use in that area. The transmission of malaria in the United States by blood transfusion is believed to be an extremely rare occurrence. However, when it does take place the examining physician in a blood bank is usually most anxious to reinstitute the more firm application of restrictive donor requirements and reject as donors those persons with a history of malaria or long residence in a malarious area.

* Queries and Minor Notes, J.A.M.A., August 4, 1956, p. 1432.

INFECTIOUS MONONUCLEOSIS*

TO THE EDITOR:—*What is the latest theory on the etiology of infectious mononucleosis? What are the possibilities of recurring attacks acute enough to cause loss of time from work? What is the attitude of industry in hiring people with a history of having had this condition, and do military services still turn down individuals with histories of this condition?*

John R. Pavia, M.D., Newark, N. J.

ANSWER.—The most popular hypothesis on the etiology of infectious mononucleosis is that a virus or similar infectious agent is responsible. No definite and unequivocal proof of this effect is available. Many attempts have been made to transmit the disease to experimental animals and to human volunteers. The occasional reported successes await confirmation. It has been suggested that the disease may be a manifestation of hypersensitivity to bacterial invaders, particularly in the throat. It would be difficult to justify this theory on the skimpy experimental evidence offered by such as Hunt (*Am. J. M. Sc. 228:*83, 1954, Longcope (*Medicine 22:*251, 1943), and Evans (*Yale J. Biol. & Med. 20:*19, 1947). In general, the prognosis of infectious mononucleosis is considered good. Most patients recover within three to six weeks without sequelae. Recurrences or relapses have been reported, but they are rare. It may be that what have been interpreted as recurrences were cases with prolonged periods of convalescence in patients with severe acute illness who did not have the benefit of sufficient bed rest during the acute stage of the disease. According to information gathered from physicians specializing in industrial medicine, who represent a fairly diversified cross section of different industrial establishments, the question of whether an individual has had infectious mononucleosis in the past does not come up at all during their examination; if such a history were elicited, none of the physicians who were consulted could see any reason

why they should consider a history of infectious mononucleosis a contraindication to employment. They have never heard of an industry where the attitude is different. Also, there is considerable doubt as to the actual "infectiousness" of this disease. There are those who feel that the word "infectious" in the name of the disease is something of a misnomer. Direct and prolonged oral contact has been blamed for transmission to a susceptible individual. (Hoagland, R. J.: *Am. J. Med. Sc. 229*:262, 1955). Unquestioned epidemics of this disease are rare, at least since the serologic test for infectious mononucleosis became available in 1932. Consequently, any objection on the part of industry, based on supposed "contagiousness," to individuals with a history of having had this disease appears to be completely unjustified. According to information obtained from a military source, no individuals are turned down for military service because of a recent history of this disease, with the possible exception of those suffering with what appears to be hepatitis at the time of examination. Even in this case, the rejection is based on the liver disease rather than on the infectious mononucleosis per se.

* Queries and Minor Notes, J.A.M.A., June 30, 1956, p. 929.

THE TREATMENT OF PREMENSTRUAL TENSION WITH A COMBINATION OF AN ANTIHISTAMINIC AND A THEOPHYLLINE DERIVATIVE*†

Forty-thre patients between the ages of 14 and 50 years with premenstrual tension were given a compound in tablet form, consisting of 50 mg. of 2-amino-2-methyl-1-propanol-8-bromotheophyllinate and 30 mg. of pyrilamine maleate (neoBromth). Seventeen of these patients had frank edema; 12 had water retention as shown by pronounced changes in weight and tightness of shoes, but no obvious edema; and 14 had no clinically recognizable water retention. The frequency and amount of dose of the drug were varied to suit individual needs. Therapeutic doses ranged from 2 tablets (160 mg.) twice to four times daily for from 3 to 10 days before the onset of menstruation. In three patients continuous administration proved advisable. Slight, moderate, pronounced, and complete relief were obtained by 8, 9, 14, and 4 patients respectively. Eight patients were therapeutic failures. Of all the manifestations, water retention was the one most consistently favorably influenced, and the nervous and mental symptoms of tension were next. Breast engorgement, gastrointestinal symptoms, and pelvic manifestations were controlled in most of the patients, and marked improvement in headaches occurred in slightly over half the patients. Adolescent or pubertal acne with normal premenstrual periods of aggravation was improved in 15 of 22 patients. No undersirable side-effects were observed with doses of up to 4 tablets (320 mg.) four times daily (a total daily dose of 1,280 mg.) for four consecutive weeks of administration. The theophylline-antihistamine combination employed is a useful aid in the management of premenstrual tension, particularly when associated with high degrees of water retention.

† By T. H. McGavack, H. J. Spoor, M. L. Stone and S. Pearson. Am. J. Obst. & Gynec. 72:416-422 (Aug.) 1956 [St. Louis].

* Medical Literature Abstracts, J.A.M.A., Oct. 20, 1956, p. 841.

DISSEMINATED LUPUS ERYTHEMATOSUS; SOME UNUSUAL SYMPTOMS; TREATMENT WITH PREDNISONE*†

In the first of the 2 cases of disseminated lupus erythematosus reported there were, besides the usual symptoms, recurring swelling and pain in both parotid glands, and in the second case a large hard struma. Both cases responded well to treatment with Meticorten, regarded as the drug of choice at present in the treatment of this disease. Dyspeptic symptoms did not occur. In the first case therapeutic doses of Meticorten caused considerably less retention of salt and water than corresponding doses of cortisone.

† By M. Iversen. Ugesk. læger 118:1134-1137 (Sept. 27) 1956 (In Danish) [Copenhagen, Denmark].

* Medical Literature Abstracts, J.A.M.A., Jan. 26, 1957, p. 315.

STOMATITIS AND VAGINITIS DURING MENSTRUATION*

TO THE EDITOR:—*A married woman, 28 years of age, each month at menses develops ulcerative stomatitis and glossitis and acute ulcerative vaginitis, also some dermatitis. She has visited many doctors. She gets much relief from taking vitamin B, but still develops the same symptoms. Have you any further suggestions on diagnosis and therapy?*

Lorne W. Mason, M.D., Evanston, Ill.

ANSWER:—There are cases in which unusual symtoms that develop just before menstruation yield to the therapy generally administered for premenstrual tension. Therefore, in addition to the use of vitamin B, which does give relief to this patient, other therapy should be added. Two popular forms of therapy are ammonium chloride, 0.6 gm. three times a day after meals for about 14 days before the expected onset of menstruation, with restriction of salt, or a 5-mg. tablet of testosterone propionate for sublingual or buccal administration daily for about 10 days before menses begin.

* Queries and Minor Notes, J.A.M.A., Dec. 29, 1956, p. 1676.

Book Reviews

The Physiological Foundation of Dental Practice by L. L. Langley, A.B., M.A., Ph.D., L.L.B., and E. Cheraskin, A.B., M.A., M.D., D.M.D., ed. 2, 192 Illustrations, C. V. Mosby Company, St. Louis, 1956, $9.75.

As the basic science subjects in the dental curriculum are placed under the jurisdiction of the dental teacher, it becomes necessary to have a textbook of physiology written primarily for the dental student and practitioner.

Langley and Cheraskin have made a concerted effort to supplement general principles of physiology with dental illustrations, and they have included numerous original drawings of dental significance.

Each chapter has a brief introduction which is designed to correlate the information of the previous section. This in turn is followed by the new subject material to be discussed. Finally, a summary is appended which outlines briefly the material contained in the chapter. Special commendation for this outline should be accorded the authors, since it enables the busy practitioner to obtain the pertinent information easily and quickly.

Of particular interest to the dentist is the chapter devoted to a study of the trigeminal nerve and referred pain. The authors describe how pain arises at one point and is perceived by the patient as originating elsewhere. They propose the convergence-projection theory which points out that pain fibers which arise in the dental tissue employ the same secondary pathways which are used by pain and temperature impulses from other head regions. Due to the difficulty in pain localization, other than that which stems from somatic sources, the cortex "misinterprets" the pain and refers it to a somatic origin, in this instance, the head.

The authors have presented an exhaustive consideration of physiology with particular emphasis on the dental aspect.

This text is a significant contribution to the dental literature.

MARVIN N. OKUN

Doctor's Offices and Clinics: Medical and Dental, by Paul Hayden Kirk and Eugene D. Sternberg, Reinhold Publishing Corp. New York, 1955, 218 pages, $12.00.

In the modern trend towards movement to the suburban areas and in locations away from populated centers, many practitioners have built their own offices together with their homes, as separate units or as a group venture together with other doctors.

For anyone interested in this type of venture, this is a most excellent book. The authors have chosen various types of buildings in different parts of the country and supply the following information: photograph of the building, some shots of the interior, floor plan, location, architects, owners, type of practice, personnel, cost in year built, floor area and cost per square foot, parking facilities, materials used, heating and air conditioning and some general information regarding practice.

In addition to this splendid material there are brief and pointed chapters on architecture as related to health and medicine, organization of medical practice, choosing a site and planning a clinic.

The mechanics of the book are good. Bold print on coated stock makes the reading easy and the reproductions are excellent.

This book will be most valuable to any dental or medical practitioner planning to build an office or clinic.

LOUIS R. BURMAN

Prescription Writing and Materia Medica for Dentists by L. Richard Cipes, Ph.G., D.D.S., 4th Ed., Dental Items of Interest Publishing Co., Inc., Brooklyn, N. Y., 624 pages, $9.50.

In order to practice properly in the healing arts professions, one should have a basic background in the writing of a prescription and in the ingredients prescribed.

The author has attempted in this expanded volume to be all inclusive and a vast amount of material is presented. The correlation between materia medica, prescription writing, diagnosis and treatment is stressed throughout the book. One need not agree with all of the remedies suggested but can find ample choice in the many that are presented.

This book can be a valuable reference book for the practicing dentist, pharmacist and student. It is recommended reading.

LOUIS R. BURMAN

The Happy Life of a Doctor, Roger I. Lee, M.D., Little Brown, New York, 1956, $4.00.

The saga of a man's life, especially one devoted to the healing arts, reads with as much interest as any exciting history of those devoted to the fine arts. For here too, is presented a life devoted to the fine art of healing. In this book by a former president of the American Medical Association, a former professor at Harvard, more recently a member of the Harvard Corporation and an active and interested practitioner, the reading is always lively. When names such as those of Walter B. Cannon, Harvey Cush-

ing, William Osler, Alexander Fleming, Varaztad H. Kazanjian appear, one is carried back into the history of the medical great.

Dr. Lee's experiences in the First World War are particularly interesting and show with what little preliminary preparation some of those whose names are respected today, started on their careers in private practice, in teaching and in the medical attention to the sick and wounded in the first mammouth military undertaking of our times. Dr. Lee, talking proudly of being fat, gives comfort to those who are overweight, among whom he seems proud to be counted. He feels that fat people accomplish much more with less wasted effort. Dr. Lee also gives opinions on many of the medical problems of today as well as delineating the vast strides which have been made in Medicine in a single life time.

For anyone interested in a life in which service and happiness are major accomplishments, this book will be a treat.

SAMUEL CHARLES MILLER

Modern Nutrition in Health and Disease, Edited by Michael G. Wohl, M.D., and Robert S. Goodhart, M.D. 55 contributors, 80 Illustrations, Lea & Febiger, Philadelphia, 1955, $18.50.

This new edition presents the salient advances in nutrition that have a direct bearing on optimal health and the prevention and treatment of disease. Its constitutes a new edition by fifty-five authorities in each branch of medicine. The book is comprised of three parts: Normal nutrition, nutrition in disease and nutrition in distress. The approach is physiological throughout with strong emphasis on the role of diet in the prevention and treatment of disease. New chapters have been included on body composition, psychology of hunger, anti-metabolites, hormonal control of metabolism and the newer B vitamins. There are also pertinent discussions of nutrition in neurology and psychiatric treatment, emergency feeding and specific nutritional indications in the various specialties. The book is well integrated and reads as if it were produced by a single author. It is the best invaluable guide to nutrition in medical literature.

I. NEWTON KUGELMASS, M.D.

Transport and Accumulation in Biological Systems, by E. J. Harris, Ph.D., D.I.C., D. Sc., Academic Press, Inc., New York, 1956.

This volume represents the result of an attempt to gather together some of the extensive amount of information which has been published more recently on the subjects of cellular inorganic chemistry and the kinetics of movement of inorganic and simple organic substances between cells and their surroundings. The advent of radioactive tracers and the development of flame photometry as an analytical tool accounts for the progress in the field of cell permeability, but the mechanism of the nervous impulse has been elucidated by quite different methods with results of fundamental importance.

Almost any process involving cells and substances can be formulated in terms of permeability or absorption coefficients, so little excuse is needed for limiting the subject matter to selected examples. References to the literature have mainly been to later work, for such papers themselves provide earlier references when these are required. The range of chapters include: Membrane Structure and Penetration; Factors Governing the Distribution and Movement of Water; Movement of Water, Factors Governing Ion Distribution; Blood Cells; Passage of Water and Salts through Amphibian Skins; Muscle; Mitochondria; Ion Contents and Movements in various Tissues; nonmyelinated Nerves; Medullated Nerve; Plant Cells and Yeast.

This is a remarkable summation of recent advances in the field and a concisely integrated physicochemical mechanism involved in transport biological systems.

I. NEWTON KUGELMASS, M.D.

Accepted Dental Remedies, 22nd Edition, American Dental Association, Council on Dental Therapeutics, January 1957, 212 pages, $2.00.

This 22nd edition of Accepted Dental Remedies, like its precursors, is a *must* in every dental office. Not only is it a ready reference source of a wealth of information concerning materials and drugs used in every-day practice, but it also gives the official stand of the Council on Dental Therapeutics of the A.D.A. on the efficacy of numerous preparations.

The chapters on the "Treatment of Emergencies in the Dental Office" and "Symptoms and Treatment of Acute Poisoning" should be required reading. It also supplies the dentist with the answers to many questions frequently asked by patients concerning mouthwashes, dentifrices, fluorides etc. This is one publication which, above many others, should be on the permanent reorder list of every student and practitioner.

ALEXANDER SOBERMAN

Introductory Psychosomatic Dentistry, by John H. Manhold, Jr., D.M.D., M.A., Appleton-Century-Crofts, Inc., New York, 193 pages, 1956, $5.00.

In this unusual but most interesting approach to the problem of psychosomatics in the field of dentistry, the author has attempted to place this phase of dental practice on a sound scientific footing. He has established an empirical basis for the application of the psychosomatic concept and has presented his research results and their statistical evaluation. But unlike many writers who present this type of information, Dr. Manhold has included a chapter on sta-

tistical methods so that the reader may be in a better position to understand and interpret his conclusions.

The author feels that a psychosomatic hypothesis for dentistry is tenable based upon the empirical results which he has obtained. While there may arise some controversy concerning his methods and his classification of periodontal disease, the importance of this work as a whole cannot be overlooked. This may well be the beginning of an organized, systematic approach to problems which are growing ever-increasingly important in the practice of dentistry.

Part Two of this book consists of a very worthwhile chapter on the practical application of this subject for the dentist in his relationships with his patients.

ALEXANDER SOBERMAN

Progressive Practice in Dentistry—A Review by Edward Samson, Philosophical Library, New York, 328 pp., $6.00.

The aim of this well-written and informative book is to present a business-like approach to dental practice compatible with ethical principles. The choice of office location is determined in England, as here, by the personal needs and resources of the dentist. The problems inherent in starting a practice are explored.

Throughout the book the inadvisability of including one's friends or relatives in practice or hoping to keep patients who become one's friends is emphasized. We cannot agree with this warning. A practical chapter on partnerships and their terms and agreements as one means of starting in practice is worth attention as is the information on the numerous relationships between the senior and junior members.

Of interest are some practical psychological considerations in the exterior appearance and interior layout and decoration of the office. Much space is devoted, unnecessarily we feel, to views of decorators and to discussion of plumbing, heating and ventilation which we are accustomed to relying on the dental dealer and other experts for advice on. More information would be welcome on the duties of the assistant with suggestions for her attitudes toward her work and in her many-faceted relationships with patients.

The author's notes on desirable personal characteristics of the dentist stress the essentials of cleanliness and good grooming as well as high health. Some reasons for patient's criticisms of dentists are given. Parenthetically, these reasons are the same all over the world and are not always reliable.

In a plea for behaviour of the dentist "as a specialist whose duty it is to be sure he is accepted as such by his patients" he adds, "There are still, unfortunately, many dentists who, though their work is beyond reproach, if judged by their professional behaviour should be practicing under the spreading chestnut tree."

Samson's constructive plea for establishing in the patient's mind a feeling of the dentist's thoroughness and the importance of the services for which the fee is set is to ascertain history, chart dental conditions, obtain information on difficulties of the work and idiosyncracies of the patient, take roentgenograms, use models and diagrams for explanation of technical points and "any other means for giving the patient an intelligent grasp of the matter in hand" before hurrying to begin work. This procedure is advised whether the patient is treated under National Health Fees or privately.

Essential factors in the treatment of patients, consideration of the adult and child patient with special needs, personal and business office considerations, management of working time, finances and the role of women dentists are some of the other chapters.

It may be of interest to American dentists to know that throughout the book emphasis is placed upon the mechanical aspects of dentistry, entirely separated from the healing art and values of dental service. For example, "The doctor (the physician) holds our lives in his hands. . . . Certainly he saves many lives. . . . Dentists must realize that they have, by specializing in their craft and science . . . taken on a part which is entirely different than that of the doctor's." Further, a technique of diagnosis and fees developed by the author—the Unitary System—has for its prime purpose "creating and maintaining a functionally perfect mouth."

The book gives much information based on the author's views of the delays, bureaucratic formality, "ridiculously small fee" allowed for examination, restricted treatment and lowered standards of dental care under the National Dental Health Act. This material alone should make the book 'must' reading for the American dentist. The author notes that many patients and practices continue on a private basis and that many patients are returning to private practitioners, chiefly to gain the amenities of private practice.

J. LEWIS BLASS

Academy Proceedings

ACTIVITIES OF THE NEW YORK SECTION

The New York Section is justly proud of the quality of the speakers presented at our section meetings. During the last year we chose essayists from various fields of the medical profession who were able to directly correlate their particular fields of endeavor with diagnosis and treatment planning in dentistry. The importance of a knowledge of the biological sciences as part of the armamentarium of the dentist has been stressed.

John William Fielding, M.D. was the speaker at our October meeting. Dr. Fielding, who has attained a prominent position in the field of orthopedic surgery, spoke on "Bone and Its Relationship to Dentistry." From the enthusiastic response of the large audience it was obvious that Dr. Fielding had successfully embued us with an even greater respect for the tissue with which we deal every day.

In January, our speaker was Joseph S. Thomas, Ph.D. His subject was "Interpretation of Clinical Pathology as Related to Dentistry." Dr. Thomas stressed the importance and use of the clinical tests as an aid in diagnosis. He also emphasized the role of the dentist in recognizing certain oral symptoms as possibly being significant of the presence of systemic ailments. He enlarged upon this theme by enumerating the use of specific tests to confirm the diagnosis.

We are looking forward to what promises to be a highly interesting Spring meeting. Our essayists will be Allan N. Arvins, D.D.S., who will speak on "Diagnosis and Prognosis of Periodontally Involved Teeth"; and Julius N. Obin, D.D.S. who will speak on "Aspects of Restorative Dentistry That Encourages the Maintenance of Periodontal Health."

Dr. William Greenhut, our National President, has attended all of our meetings and has kept us abreast of the activities of the national organization.

Our thanks to our Section officers; President, Theodore Lite; President-elect, Sanford Kirsch; and Sec.-Treas., J. Robert Theaman; for their able leadership and for providing us with many stimulating evenings.

Stephen Nachbar

MASSACHUSETTS SECTION

A symposium on antibiotics highlighted the Mid-Winter Meeting of the Massachusetts Section of the American Academy of Dental Medicine at the Hotel Statler in Boston on February 3rd. Moderator Dr. Leslie Milne introduced Dr. David Weisberger, member of the Council on Therapeutics of the American Dental Association, Chief of Oral Surgery at Massachusetts General Hospital, and Professor of Oral Medicine at Harvard University who spoke on the use of antibiotics in dental practice. He mentioned that the Council still considers penicillin as the best antibiotic, but that the broad spectrum antibiotics are used when there is a history of adverse conditions after the use of penicillin or an allergy, or a specific antibiotic has been tested and proven as effective against the certain strain. Antibiotics are an adjunct, not a substitute, for surgery.

The mechanics of antibiotics, side effects and sensitivity was the subject of the talk by Dr. Louis Weinstein, Associate Professor of Medicine at Boston University, Lecturer

on Infectious Diseases at Harvard Medical School, and Chief of the Department of Infectious Diseases at the Massachusetts Memorial Hospital. He warned that if the doctor uses antibiotics long enough, he will meet with complications, and it is wise to anticipate complications in advance, and take means to cope with them. He discussed the anaphylactoid reaction, the impossibility of prevention, but the possibility of recovery with prompt and adequate treatment.

An open discussion and question period followed.

Dr. Arthur Gold of Springfield introduced Dr. William M. Greenhut, President of the American Academy of Dental Medicine, who came to Boston for his official visitation to the Massachusetts Section. Dr. Greenhut entered into the theme of the meeting and devoted much of his talk to the research into antibiotics that is progressing today in the Universities. Dr. Greenhut extended greeting from the Academy, and spoke of the work of his administration.

Dr. George F. Clarke, Past National President and National Convention Chairman, spoke of the Eleventh Annual Meeting being held in Boston May 29th through June 1st at the Sheraton Plaza Hotel with the Massachusetts Section as hosts. The scientific session will be devoted to a "Symposium on Pain." The outstanding clinicians are listed in the center pages on this issue of the Journal.

The Massachusetts Section cordially invites and welcomes the Academy membership, their ladies and friends to Boston for the Eleventh Annual Meeting, May 29, 30, 31, and June 1, 1957.

Richard C. Harriott, *Secretary*

MICHIGAN SECTION

The regular January meeting of the Michigan Section was held at the Hotel Fort Shelby on January 16, 1957.

The evening's essayist was Capt. Robertt Colby, D.C., U.S.N. His essay, entitled "Oral Diagnosis", compounded a profound and thorough expose of both dominant and subtle diagnostic symptoms in differentiating between the identities of possible pathologies present. The members of the Naval Reserve were guests of the Michigan Section.

This meeting was presided over by outgoing President James Ladd who concluded a most stimulating year of leadership by presenting the gavel to successor, President Edwin Deer. The following officers were inducted:

President-elect	Dr. Edward G. Freimuth
Vice-President and Secretary	Dr. Charles Conat
Treasurer	Dr. O. B. Aubin
National Delegate	Dr. Marie Salutsky
Alternate Delegate	Dr. James Ladd

The Michigan Section has accepted an invitation by the Detroit District Dental Society to present a "Symposium on Dental Medicine" at the Annual Review in November. Members of the participating panel are Dr. Horton Kimball, Dr. Edwin Deer and Dr. Edward Freimuth.

Our membership now numbers over fifty, and this youngest section of the Academy believes that it is imbued with enthusiasm and interest factors that are second to none.

EDWARD G. FREIMUTH

DR. SAMUEL CHARLES MILLER TO BE HONORED

The Periodontia and Oral Medicine Department of New York University College of Dentistry will tender a testimonial dinner to Dr. Samuel Charles Miller, Professor and Chairman, on Saturday evening, Dec. 7, 1957 at the Hotel Roosevelt, Lexington Avenue and 46th Street in New York City. Dr. Miller will be honored for the completion of twenty-five years as Chairman of the Department of Periodontia and Oral Medicine.

Reservations should be made as soon as possible since there will be a limited attendance. Dress is optional. Ladies are cordially invited. The dinner will be $15.00 per person. Please make checks payable to Dr. George J. Witkin, Treasurer, 501 Madison Avenue, New York 22, N. Y.

SIDNEY SORRIN, *Chairman*

ACADEMY PAST PRESIDENT ELECTED ALPHA OMEGA PRESIDENT

Dr. Louis R. Burman, past president of the American Academy of Dental Medicine and one of its charter members, was recently elected National President of the Alpha Omega Fraternity at its annual convention in Boston.

This fraternity is international in scope and has been instrumental in establishing a biological laboratory at the Brandeis University. Alpha Omega is supplying the funds to build a dental school at the Hebrew University in Israel. There are approximately 100 chapters of this fraternity throughout the United States, Canada and Israel with an approximate membership of 8,000.

Other officers of the fraternity are, Dr. John A. Sherman, Toronto, Ontario; Dr. David L. Dyen, Philadelphia, Pa.; Dr. Michael Frost, Passaic, New Jersey; Dr. Fred Stein, Detroit, Michigan, Dr. Walter I. Levine, Baltimore, Maryland, and Dr. Jesse Trager, Baltimore, Md.

ISADORE WEINMANN

Dr. Isadore Weinmann, well known periodontist of Newark, New Jersey passed away suddenly last February at the age of 58.

Dr. Weinmann was graduated from New York University College of Dentistry in 1922. During the last 35 years he had been actively engaged in the practice of Periodontia, hospital work and teaching postgraduate courses in the metropolitan area dental societies.

He was a member of the Essex County Dental Society, the New Jersey State Dental Society, the American Dental Association and was an associate member of the First District Dental Society of New York City. He wrote many papers and contributed to several textbooks. Dr. Weinmann was an instructor in postgraduate courses for the Allied Dental Council and the First District Dental Society. He was chief of the Department of Periodontia at the Beth Israel Hospital in Newark, New Jersey.

The Academy membership extends its sincerest condolences to his family.

Announcements

POSTGRADUATE TRAINING IN PERIODONTIA AND ORAL MEDICINE
NEW YORK UNIVERSITY COLLEGE OF DENTISTRY

The following postgraduate courses in Periodontia and Oral Medicine will be offered at the New York University College of Dentistry and will be given by Dr. Samuel Charles Miller and Staff:

No. 124. REFRESHER COURSE IN PERIODONTIA AND ORAL MEDICINE
Ten sessions, Wednesdays, 4:00 to 6:00 P.M.
February 12, 1958 to April 23, 1958.
Tuition and books. $156.00. Instruments approximately $55.00.

Theoretical and practical application of periodontal diagnosis and techniques to general dentistry. Four lecture and six clinical demonstration sessions. Equilibration of occlusion is performed by the student on casts. Patient demonstrations include equilibration of occlusion, conservative and radical therapy, home care, etc.

No. 123. PERIODONTIA AND ORAL MEDICINE IN THE SPANISH LANGUAGE
Four weeks, Monday through Friday, 9:00 A.M. to 4:00 P.M.
March 3 to March 28, 1958 inclusive
Tuition including books and instruments approximately $385.00.

Theoretical and practical application of Periodontia and Oral Medicine is fully explained and demonstrated. Equilibration of occlusion is performed by the student on casts. Lectures and clinical demonstrations of diagnosis and treatment planning, conservative and radical techniques, equilibration of occlusion, home care, etc. The entire course is conducted in the Spanish language.

No. 122. COMPREHENSIVE PREPARATION IN PERIODONTIA AND ORAL MEDICINE

No. 122 A. One academic year, full time. September 16, 1957 to May 28 ,1958.
Tuition $1,010.00. Instruments and books approximately $135.00.

No. 122 B. Two academic years, full time. September 16, 1957 to May 27, 1959.
Tuition $1,770.00 (two years). Instruments and books approximately $231.00.

No. 122 C. Two academic years, half time. September 16, 1957 to May 27, 1959. (Two and one half days weekly.)
Tuition $1,010.00 (two years). Instruments and books approximately $135.00.

No. 122 D. Four academic years, half time. September 16, 1957, to May 26, 1961. (Two and one half days weekly.)
Tuition $1,770.00 (four years). Instruments and books approximately $231.00.

These courses are designed for comprehensive preparation in Periodontia and Oral Medicine and are of particular significance for certification towards specialization. All didactic and clinical phases are covered with the objective of developing expert proficiency.

No. 222. GRADUATE COURSE IN PERIODONTIA AND ORAL MEDICINE

Two academic years, full or half time, beginning Sept. 16, 1957. Tuition $2,020.00 (two years). Instruments and books approximately $275.00.

This program leads to the degree of Master of Science (in Dentistry). The objectives are to teach superior proficiency in Periodontia and Oral Medicine based on adequate background in the basic sciences.

THE CANADIAN DENTAL ASSOCIATION AND THE WESTERN CANADA DENTAL SOCIETY

The Canadian Dental Convention will be held at Winnipeg, Manitoba, June 23, 24, 25, 26, 1957.

Some of the more well known clinicians will be: Dr. Samuel Charles Miller, New York City, Professor and Chairman of the Periodontia and Oral Medicine Department at New York University College of Dentistry.

Dr. V. R. Trapozzano, St. Petersburg, Florida, Consultant in Prosthetic Dentistry to the United States Armed Forces.

Dr. R. W. Phillips, Indianapolis, Associate Professor and Chairman of the Department of Dental Materials at the Indiana University School of Dentistry.

For further information contact, Dr. F. W. Jones, 904 Boyd Building, Winnipeg, Manitoba.

XII CONGRESSO INTERNAZIONALE DI ODONTO-STOMATOLOGIA

The XIIth International Dental Congress of the F.D.I., will take place at the Congress building of the E.U.R. in Rome, Italy from September 7th to 14th, 1957.

The scientific program is composed of 25 reports and 150 co-reports covering all fields of dentistry: Anatomy and physiology, anesthesia and surgery, caries and protecting therapy, periodontal diseases, radiology, prosthesis, dento-maxillo orthopedics, and social dentistry. All reports will be published in English with a summary in French, German, Italian and Spanish in the International Dental Journal, and in Italian in the "Revista Italiana di Stomatologia."

By means of simultaneous translations, Congress members will be able to hear the reports, co-reports, and discussions in the five official languages, English, French, German, Italian and Spanish.

Hotel reservations and reservations for camping places should be arranged before April 30, 1957 by making applications either to the Secretary General of the Congress, Dr. Pio Lalli, Via Beezio 16, Rome, or at the Wagon-Lits/Cooks Agency.

WORKSHOP IN PRACTICE MANAGEMENT AT THE NEW YORK UNIVERSITY

A Workshop in Practice Management at New York University will be held June 24-28th, 1957. Diagnosis, ethics, education, presentation, secretarial and office efficiency, fees, budgets and psychological considerations for acceptance and practice growth will be discussed. Participants will be psychologically appraised and interviewed to know their behavior and emotions for better relations with patients. Instructors: Drs. J. Lewis Blass and Irvin Tulkin.

For further information contact the Postgraduate Secretary, New York University College of Dentistry, 209 East 23rd Street, New York City, New York.

UNIVERSITY OF SANTO DOMINGO OFFERS POSTGRADUATE COURSES IN LATIN AMERICA THIS SUMMER

The University of Santo Domingo College of Dentistry announces three courses to be given in conjunction with the University of Alabama School of Dentistry. These three programs will be held in Ciudad Trujillo, Dominican Republic.

Dr. Sidney B. Finn, Professor and Chairman of the Department of Pedodontics, will give a one-week course in "Pedodontics" from September 9 through September 13, 1957.

Dr. A. E. Thomas, Chairman of the Department of Operative Dentistry and Endodontics, will present a one-week program in "Operative Dentistry and Endodontics" from July 8 through July 12, 1957.

Dr. Horacio Read Barreras, former Dean of the College of Dentistry of the University of Santo Domingo, will offer a course of one week in "Complete Dentures" from August 26 through August 30, 1957.

For further details, contact Dr. Hector C. Franco Santoni, Dean, University of Santo Domingo College of Dentistry, Ciudad Trujillo, Dominican Republic.

INTERNATIONAL ACADEMY OF ANESTHESIOLOGY

The next meeting of the International Academy of Anesthesiology will take place on Wednesday evening, May 8th, 1957, at 8 P.M. in the Buffalo Room of the Hotel Statler, 33rd Street and Seventh Avenue, New York City.

The following program will be presented:

"Principles and Techniques of Ambulatory Pediatric Anesthesia."
Robert S. Neulist, D.D.S., Instructor in General Anesthesia,
Columbia University, School of Dental & Oral Surgery.

"Circulatory Complications and Their Importance in General Anesthesia."
Sidney Silver, M.S., D.D.S.
Anesthesia Resident, Beth-El Hospital, Brooklyn, N. Y.

Information concerning membership in the International Academy of Anesthesiology can be obtained from the Executive Secretary, Dr. Irwin G. Tomack, 355 East 149th Street, New York 55, New York.

EIGHTH ANNUAL BERKSHIRE CONFERENCE IN ORAL PATHOLOGY AND PERIODONTOLOGY

The Division of Graduate and Postgraduate Studies of Tufts University School of Dental Medicine will conduct the Eighth Annual Berkshire Conference in Oral Pathology and Periodontology at Eastover in Lenox, Mass. June 16-20, 1957. The Conference will consist of four days of lectures, seminars, and panel discussions regarding the clinical problems by outstanding teachers and clinicians in dentistry, medicine and their related fields.

The curriculum is arranged so that mornings and evenings are devoted to professional activities with afternoons open for recreation. This is a conference for general practitioners as well as those interested in a specialized practice.

The central theme of the Conference will be the "Attainment of Optimal Occlusion in the Management of Periodontal Disease."

For further information and application write to: Eighth Annual Berkshire Conference, Tufts University Dental School, 136 Harrison Avenue, Boston 11, Massachusetts.

STATE UNIVERSITY OF IOWA, COLLEGE OF DENTISTRY

The State University of Iowa, College of Dentistry, under the direction of Assistant Professor Gerald P. Ivancie, Head of the Department of Periodontology, will offer a two-day postgraduate course on The Theory And Practice Of Occlusal Equilibrium, April 18th and 19th, 1957. Dr. Frank M. Wentz, D.D.S., Ph.D., will be the guest lecturer and demonstrator.

For further particulars, regarding fees and accommodations, write to Dr. William D. Coder, Coordinator of Conferences, State University of Iowa, Iowa City, Iowa.

UNIVERSITY OF ALABAMA, SCHOOL OF DENTISTRY

The refresher course listed below will be given at the University of Alabama School of Dentistry on the dates indicated.

April 6,7,8, 1957	Oral Roentgenology Dr. Arthur H. Wuehrmann
April 11,12,13, 1957	Partial Denture Prosthesis Dr. Oliver C. Applegate
May 4,5,6, 1957	Emergency Care in the Dental Office Dr. Emanuel Cheraskin, et al.
May 11,12,13, 1957	Practical Root Canal Therapy Dr. Adeeb E. Thomas

For further information, contact Dr. Arthur H. Wuehrmann, Associate Dean and Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 7th Avenue South, Birmingham 3, Alabama.